

22, 2

B

22 November 1961

MEMORANDUM FOR: THE RECORD

SUBJECT : Schedule of Grant Payments MKULTRA 22

B

~~XXXXXXXXXXXXXXXXXXXX~~ November 1961 to November 1962

Due Nov 1, 1961	\$3,852.00
Due Feb 1, 1961	3,852.00
Due May 1, 1961	3,853.00
Due Aug 1, 1961	3,853.00

TOTAL GRANT \$15,410.00

7 October 1959

22.3

MEMORANDUM FOR: THE RECORD

SUBJECT : Schedule of Grant Payments MKULTRA 22

B

November 1959 to October 1960.

Due	Nov 1, 1959	2891.75
Due	Feb 1, 1960	2891.75
Due	May 1, 1960	2891.75
Due	Aug 1, 1960	<u>2891.75</u>
TOTAL GRANT		11,567.00

Project MKULTA, Subproject 22

Date Initiated: 28 January 1954

Date Expires: Continuing

Funds-current year: \$11,567.00

Purpose: Isolation and investigation of the active principals of certain botanicals of interest.

Status: Final fractions are being studied on the Rivea corymbosa separation, considerable progress has been made on the separation of the active constituents of Amanita muscaria, and a start has been made on the separation of Rhynchosia phaseoloides

April 17, 1964

226

To: [Redacted]

A, B, C, G

From: [Redacted] principal investigator

Re: Final financial accounting for renewal of research grant entitled [Redacted]

Period of grant: November 1, 1962 - July 15, 1963

For professional services rendered in research [Redacted] \$4500.

Travel expenses [Redacted] to [Redacted] and return by auto and plane 1115.

Living expenses at [Redacted] 1950.

Laboratory fee at [Redacted] 140.

Total	
expenditures	\$7705.
Total funds from grant	7705.
Balance	-0-

This is a correct accounting of funds received by me as grantee from [Redacted] as grantor..

I have examined and approved the submitted expenditures.

[Redacted Signature]

Chief

TSD/

[Redacted Footer]

#22
32,8

OFFICE OF RESEARCH ADMINISTRATION

May 1, 1963

B. C

[REDACTED]
Director

[REDACTED] Incorporated

Dear [REDACTED]

Your check for \$2,575.00, representing the third quarterly payment for [REDACTED]'s research work, was received today.

Thank you for taking care of this matter for us.

Very truly yours,

[REDACTED]
Assistant Research
Administrator

J. J. P.

A

22

11 \$7,705.00



22 April 1963

JJ. 10
A, B

A

Apr. 14, 1962

Dear [redacted]

Attached are two copies of accounting on the grant funds at [redacted]. I've checked this and all appears to be in order. If there are any questions just let me know.

Cordially
[redacted]

BUSINESS OFFICE

Report of Expenditures
November 11, 1961 to October 31, 1962

22. ~~22~~
A, B, C,

Grantor: [redacted]
Grantee: [redacted], Principal Investigator
Fund: 8-0009-76

Nov. 14, 1962

Income:

\$7,705.00

Expenditures:

Salaries and Wages	\$1,905.00
Travel	1,021.65
Equipment	2,252.99
Supplies	1,206.34
Other Expenses:	
Telegraph service	9.27
Telephone	169.06
Miscellaneous	87.06
	265.39
Overhead @ .1376 of direct costs	<u>1,053.63</u>

7,705.00

Balance

-0-

I certify that the above statement of account is correct to the best of my knowledge.

[redacted]
Business Manager

I have examined and approved the submitted expenditures.

[redacted]
Chief
TSD/Biological Branch

22.12

6 August 1962

A, B, C

MEMORANDUM FOR THE RECORD

SUBJECT : Extension of Grant for [REDACTED]

Authorization was given this date to [REDACTED]

[REDACTED] extending [REDACTED]

[REDACTED] grant time until 1 August 1963.

[REDACTED]
[REDACTED]
Chief
TSD/Biological Research

[REDACTED]

26 March 1962

22.13
A, B, C

MEMORANDUM FOR THE RECORD

SUBJECT

: Support of [REDACTED]
Research on [REDACTED] at [REDACTED]

1. This date discussed in detail the status of our research on the physiologically active principles of the mushroom [REDACTED] with [REDACTED] the principal investigator on this project. [REDACTED] has made outstanding progress in his laboratories in [REDACTED]. The research has progressed to the point where it is important to engage in more detailed phases.

2. In discussing the projected research, [REDACTED] said that he was unable to engage in certain critical phases due to lack of contact with certain types of apparatus. He was of the opinion that it was most important to bring into the research picture an outstanding research worker who was knowledgeable in the field of drugs natural products.

3. Following consultation with [REDACTED] discussions were held between [REDACTED] and myself. It was the consensus that this work could best be undertaken in the laboratories of [REDACTED]. [REDACTED] was in complete agreement with this since it would permit him to devote full time to his research and at the same time, obtain much needed information on [REDACTED] researches first hand.

4. [REDACTED] pointed out, however, that he would be unable to carry out such a program without additional support. He stated that he had been in correspondence with [REDACTED] and had received several cordial invitations to work in [REDACTED] laboratories. [REDACTED] pointed out that his expenses would be in excess of \$10,000, owing to the fact that he would have his family to transport and take care of. He was advised that the grant could not undertake support to this extent, but that it would be possible to use about $\frac{1}{2}$ of the existing grant to reimburse him for his professional services, transportation, and a portion of his living expenses while in residence at [REDACTED]. He was informed that he, personally, would have to make his own arrangements about the additional funds required. [REDACTED] stated that this was quite agreeable to him and that he would take the necessary steps.

2213
10

5. Arrangements were made with [redacted] whereby 1/2 of the grant would be withheld from [redacted] and given directly in support of [redacted] researches at [redacted]. This was concurred in by Chief, TSD, [redacted] and [redacted]

Chief
TSD/Biological Research

BUSINESS OFFICE

File # 22
14
J. J. B

Report of Expenditures
November 1, 1960 to November 10, 1961

B, C

Grantor: [redacted]
Grantee: [redacted] Principal Investigator
Fund: 6795-76

INV 10

Incomes:

\$9,300.00

Expenditures:

Salaries & Wages (Incl. Fellowships)	\$3,850.00
Travel	1,107.10
Equipment	1,150.65
Supplies	1,684.99
Publication and preparation of thesis	148.10
Other expenses:	
[redacted]	8.01
Telephone	130.25
Miscellaneous	9.85
	146.11
Overhead @ 15% direct costs	<u>1,213.05</u>

Total Expenditures,

9,300.00

Balance

-0-

I certify that the above
statement of account is
correct to the best of my
knowledge.

[redacted]
Business Manager

1/17/61

27. 15
November 8, 1961

[Redacted]

B, E,

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check No. [Redacted] drawn on the [Redacted] the [Redacted], dated November 2, 1961, for \$15,410.00.

Check No. [Redacted] drawn on the [Redacted] the [Redacted] dated November 2, 1961, for \$616.40.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

12 October 1961

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSD/Budget Officer

SUBJECT : MKULTRA, Subproject 22 Invoice #11
Allotment No. [REDACTED]

A, E, B

1. Invoice No. 11 in the amount of \$16,026.40 covering the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$15,410.00, drawn on a [REDACTED]

Cashier's check in the amount of \$616.40, drawn on a [REDACTED]

Both checks should be made payable to [REDACTED]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than 3 November 1961.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[REDACTED]
Chief
TSD/Research Branch

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee

CHECK # [REDACTED] IN THE AMOUNT OF \$ 15,410
RECEIVED.

11/3/61

CHECK # [REDACTED] IN THE AMOUNT OF \$ 616.40
RECEIVED.

11/3/61

12 October 1961

J. J. [unclear]
A, E, B

MEMORANDUM FOR: CHIEF, FINANCE DIVISION
VIA : TSD/Budget Officer
SUBJECT : MULTRA, Subproject 22 Invoice #11
Allotment No. [redacted]

1. Invoice No. 11 in the amount of \$16,026.40 covering the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$15,410.00, drawn on a [redacted]

Cashier's check in the amount of \$616.40, drawn on a [redacted]

Both checks should be made payable to [redacted]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than 3 November 1961.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[redacted]
Chief
TSD/Research Branch

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee

- 1 - TSD/PASS
- 2 - TSD/RB

I CERTIFY THAT FUNDS ARE AVAILABLE: 18 OCT 1961
OBLIGATION REFERENCE NO. 632
CHARGE TO ALLOTMENT NO. [redacted]

AUTHORIZING OFFICER

20
22, 19
B, U

INVOICE

\$16,026.40

For Services

[REDACTED]

B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice 11 applying to Sub-project No. 22 of MKULTRA, that performance is satisfactory, that services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSD/RB, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSD/Research Branch

Date: _____

(2) It is hereby certified that this invoice applies to Subproject 22 of MKULTRA which was duly approved, and that the project is being carried out in accordance with the memorandum of 13 April 1953 from the DCI to the [REDACTED] and the extension of this authority in subsequent memoranda.

B

Research Director

Date: _____

[REDACTED]

27-7218

27 September 1961

A, H

MEMORANDUM FOR: COMPTROLLER

ATTENTION : Finance Division

SUBJECT : Project MKULTRA, Subproject #22
Additional Authorization #9

Under the authority granted in the Memorandum dated

13 April 1953 from the DCI to the [redacted] and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$16,026.40 of the over-all project MKULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 2125-1390-3902.

A

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted]

Chief,
TSD/Research Branch

A

Research Director

11 OCT 1961

Date:

I CERTIFY THAT FUNDS ARE AVAILABLE
OBLIGATION REFERENCE NO. 639
CHARGE TO ALLOTMENT NO. [redacted]

AUTHORIZING OFFICER

Distribution:

- Orig & 2 Addressee
- 1 - TSD/OC
- ✓ 1 - TSD/FASS
- 2 - TSD/RB

A

[redacted] (27 Sept. 61)

[redacted]

27 September 1961

MEMORANDUM FOR: THE RECORD

SUBJECT : Project MKULTRA, Subproject #22

1. The purpose of this Subproject is to provide funds to continue the researches of Prof. [REDACTED] on the isolation of compounds from natural products which have psychogenic properties. Prof. [REDACTED] is concentrating his studies on isolation and identification of active materials in the fungus Amanita muscaria. Studies will be extended to active principles in Rhynchosia phaseoloides.

2. Progress in the studies of Amanita has been significant to date. It is believed that the chemical entity primarily responsible for the hallucinogenic effects of Amanita muscaria has been isolated. Because of the extremely small amount in the fungus, and due to the lack of sufficient quantities of plant material the amount isolated has been insufficient for complete structure elucidation. Effort during the coming year will be directed to obtaining adequate supplies of fresh material and the carrying out of various extraction and concentration procedures. Chemical and biological techniques will be utilized to identify and characterize the active principles which are of interest to TSD.

22-23
[Signature]
B

3. The [redacted] will serve as cutout for transfer of funds to the investigator. The estimated cost as outlined in the budget proposal is \$15,410.00. To this must be added the 4% service charge to the cutout, making the total cost for one (1) year not in excess of \$16,026.40. Charges should be made against allotment 2125-1390-3902.

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the [redacted] in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the [redacted] shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project MKULTRA and has agreed to comply with the terms of the Memorandum of Agreement.

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted]
TSD/Research Branch

[redacted]
Research Director

Date: _____

Attached: Budget

Distribution: Orig. only

A
A

22-24
~~25~~

PROPOSAL
TO



B

RENEWAL OF A RESEARCH GRANT

Investigation of the Physiologically
Active Principles of Amanita Muscaria
and Other Plants of Potential
Medicinal Value

Grant date: November 1, 1961 - October 31, 1962

Principal Investigator



Executive Secretary

President



C
C
C

J. J. - 26

16 December 1960

[REDACTED]

A

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check [REDACTED] drawn on the [REDACTED] Company of [REDACTED], dated 15 December 1960, for \$8,634.57.

E

Check [REDACTED] drawn on the [REDACTED] of [REDACTED], dated 15 December 1960, for \$345.38.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

20-38

29 November 1960

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSD/Budget Officer

SUBJECT : MULTRA, Subproject 22, Invoice #10
Allotment 1125-1009-1902

1. Invoices No. 10 in the amount of \$9,645.38 covering the above subproject is attached. However, due to refunds of \$665.43 from this project (as per attachment) payment should be made as follows:

Cashier's check in the amount of \$8,634.57, drawn on a [redacted] bank

Cashier's check in the amount of \$345.38, drawn on a [redacted] bank.

3979.95

Both checks should be made payable to [redacted]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than Wednesday, 7 December 1960.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[redacted]
Chief
TSD/Research Branch

A

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - TSD/FASS

1 COPY FILED IN [redacted]
ORIGINATOR [redacted] 981
CHARGE TO PROJECT 1125-1390-3912
AUTHORIZING OFFICER

2 DEC 1960

CHECK RECEIVED [redacted] IN THE AMOUNT OF \$8,634.57
16 DEC 1960

CHECK RECEIVED [redacted] IN THE AMOUNT OF \$345.38
16 DEC 1960

C

C

INVOICE

For Services

27-29
\$ 8,979.95
~~\$9,672.00~~

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 10 applying to Subproject 22 of MKULTRA, that performance is satisfactory, that services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is filed in TSD/RB, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSD/Research Branch

Date: _____

(2) It is hereby certified that this invoice applies to Subproject 22 under MKULTRA which was duly approved and that the project is being carried out in accordance with the memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date: _____

~~22-29~~
22-29

(3) It is hereby certified that Under subproject 22 at the close of FY59 a balance of \$665.43 representing unused funds remained in subproject 22. Additional funds (FY 1125-1009-1902) have been approved for continuing subproject 22. Therefore, it is requested that \$665.43 of Invoice No. 10 be credited subproject 22 as a return of unused funds (FY 9-2502-75-902), MOR 2707.

Chief, TSD/Research Branch

Date: _____

Research Director

Date: _____

22-31


15 November 1960

MEMORANDUM FOR: COMPTROLLER

ATTENTION : Finance Division

SUBJECT : Project MKULTRA, Subproject #22
Additional Authorization #8

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$9,672.00 of the over-all project MKULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 1125-1009-1902.


Chief
TSD/Research Branch

A 231

APPROVED FOR OBLIGATION OF FUNDS:



A

Research Director

Date:

Distribution:

Orig. & 2 - Addressee

1 - TSD/OC

1 - TSD/FASS

2 - TSD/RB

TSD/  (15 Nov. '60)

A



72-32-1

15 November 1960

MEMORANDUM FOR: THE RECORD

SUBJECT: Project MKULTRA, Subproject #22

1. The purpose of this Subproject is to provide funds to continue the research of Prof. [REDACTED] on the isolation of compounds having psychogenic and related properties from natural products. Prof. [REDACTED] is concentrating his studies on Rivea Corymbosa variety and Amanita Muscaria and has isolated some active materials which are of interest.

2. Difficulties in obtaining properly documented raw materials in sufficient quantity for further research have been to a large extent overcome. Considerable renewed interest on the part of several drug companies of foreign origin in related fungi and plant materials believed to have central nervous system activity indicate that there may be chemical compounds in the natural products under study of considerable TSD interest.

3. The [REDACTED] will serve as cutout for transfer of funds to the investigator. The

[REDACTED]

[REDACTED]

22-3A

estimated cost for the coming year of the work is \$9,300.00.

To this must be added the 4% service charge to the cutout,

thus the total cost for one year will not exceed \$9,672.00.

Charges should be made against allotment 1125-1009-1902.

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project MKULTRA and has agreed to comply with the terms of the Memorandum of Agreement.

B

[redacted]

Chief
TSD/Research Branch

A

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted]

Research Director

Date: 11/18/60

Attached: Budget
Distribution: Original only

[redacted]

[redacted]

72-33

BUDGET 1961

SALARIES \$4,500

SUPPLIES and EQUIPMENT 2,000

SPECIAL CHEMICALS 500

SPECIAL ANALYSES 350

TRAVEL & COMMUNICATION 600

LIBRARY SERVICE 150

\$8,100

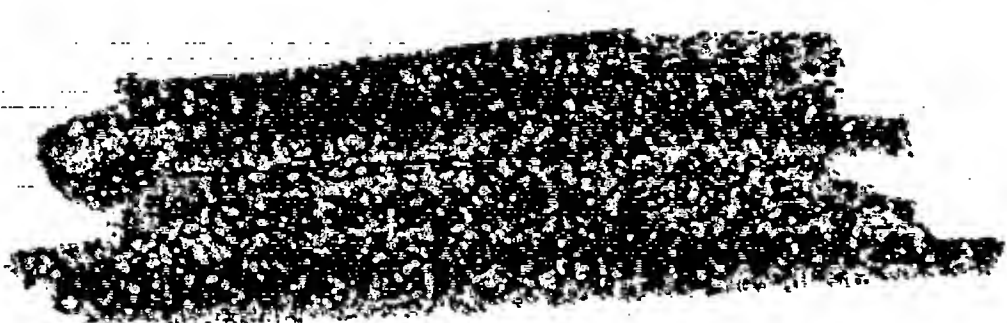
OVERHEAD

(15% of Direct Costs)

1,200

TOTAL

\$9,300



22-34

PROPOSAL TO

[REDACTED]

B

from

[REDACTED]

C

for renewal of support to investigate

The Physiologically Active Principals
of Amanita Muscaria and

Rivea Corymbosa

Principal Investigator

[REDACTED]

C

President

[REDACTED]

[REDACTED]

C

[REDACTED]

J2-34

PROGRESS REPORT
for
Grant Fiscal Year 1959-60

During this year work has progressed to the point where crystal-
line substances with physiological action have been isolated from
Rivea Corymbosa and Amanita Muscaria. Rather than review all the
work in detail two papers are attached which describe the principle
aspects of the investigation during the year. The first of these
is a paper which has been submitted for publication in [REDACTED]
[REDACTED] regarding Rivea Corymbosa. The second is an adoption of a
paper regarding Amanita Muscaria which was presented before the
[REDACTED] August 15-25, 1960.

H
F

[REDACTED]

acetic anhydride and pyridine. The acetate was crystallized to a constant melting point of 247-248°. The glucoside acetate has been assigned a molecular formula of $C_{27}H_{39}O_{11}$. The compound contains seven acetyl groups, which indicates seven hydroxyls. Elemental analysis: Found C = 58.21%, H = 7.16%, (Acet) molecular weight 840, acetyl 36.38%. Calculated for $C_{27}H_{39}O_{11}$: C = 58.03%, H = 6.96%, molecular weight 863.90, for seven acetyl groups 35.82%. The compound gives a negative alkyl reaction.

The glucoside was hydrolyzed by suspending it in a methanol-water solution (75% water and 25% methanol) with emulsin. The sugar moiety was identified as glucose by paper chromatography and further confirmed by the separation of the phenylacetone and the pentac-acetate.

The aglucone was recrystallized from water and methanol to a constant melting point of 165-168°. The aglucone has been assigned a molecular formula of $C_{22}H_{33}O_7$. Elemental analysis: Found, C = 65.12%, H = 9.07%, $d_{20}^{25} = 1.08$, $n_D^{20} = 1.506$ (c = 2.006 mg./ml. in methanol); calculated for $C_{22}H_{33}O_7$: C = 64.05%, H = 8.79%. Terminal methyl 4.30%, and calculated for one terminal methyl group 3.63%.

Analysis were run by _____
Analysis were run by _____

acetate has been assigned a molecular formula of $C_{30}H_{40}O_4$. The compound contains four acetyl, which furnish four hydroxyls. Elemental analysis: $C = 72.04\%$, $H = 7.79\%$, (calc) molecular weight 580, acetyl = 28.90%, $d_4^{20} = 1.132$ (calc) $d_4^{20} = 1.132$ (calc) in pyridine; calculated for $C_{30}H_{40}O_4$, $C = 72.04\%$, $H = 7.79\%$, molecular weight 580.65, four acetyl = 29.65%.

It has been shown that the glucoside does not contain unsaturation by the following negative tests: 1. bromine addition, 2. ozonolysis, and 3. addition of tetranitroethane.

The carbon skeleton has been studied by means of dehydrogenation with 5% palladium on charcoal at $350^\circ C$. Phenanthrene has been isolated from the dehydrogenation product using column chromatography (adsorbent: fluxion column and n-hexane as eluent). Phenanthrene was characterized on the basis of melting point, infrared spectrum and ultraviolet spectrum. Two other compounds have been characterized: 1) 2-methyl naphthalene by its picrate, which is yellow and has a melting point of $115-116^\circ$. The compound was not isolated, but the ultraviolet spectrum is similar to that reported for other naphthalene derivatives. 2) 10-methyl-2-ethyl phenanthrene, which has an orange picrate melting at $106-108^\circ$, has been characterized. The ultraviolet spectrum is similar to those reported for phenanthrene derivatives. 7,8.

6 Ozonolysis was run by [redacted] 85 [redacted] 10/16

7 [redacted] 23 [redacted] 1951

8 [redacted] 1947, 576

and was noted in [redacted] No. 7, pp. 30-32. (C)

A careful recheck of our experimental data confirms the validity of the formulas we are reporting. Whereas, it is possible that [redacted] reported by [redacted] and [redacted] may differ from the glucoside reported here, it is most likely that the two are identical. In all cases analytical results are reported on crystalline, constant melting compounds. The acetyl determinations were run on compounds whose infrared spectra indicated complete acetylation. On the basis of the evidence available to date, we believe the carbon skeleton of the aglucon to be a hydrogenated pyrene-naphthalene which contains four hydroxyls and three other oxygen as bridges elsewhere.

Presented before the

August 18, 1960

The first slide (not included) gives a mycologist's view of the plant material which is the subject of this paper. A variation of the same species has yellow coloration with white vesicles. Strictly speaking this is not a poisonous plant nor is it a toad stool as many have called it.

For several centuries a large number of investigators from various countries have studied this beautiful fungus with different viewpoints. Chemists, physiologists, pharmacologists, pathologists, botanists, mycologists and recently, as well as seven hundred years ago, amateur explorers such as Aldertus Magnus in 1256 and [redacted] within the past five years.

Practitioners in the field of psychoneurosis and extra sensory perception also have investigated and reported on the mushroom. As a result there is an enormous mass of literature on the subject, some of which is open to considerable doubt and some of which is contradictory. Records, which may or may not have basis in truth, date interest in the plant to the ninth century when Norse tribes are reported to have used it under the name Flugsvamp (or fly mushroom) as a narcotic which gave rise to the Berserkung of the same period of Viking history.

It is a well established fact that the fungus is still used by certain eastern Siberian tribes for its narcotic and hallucinogenic effects. Although it was these characteristic psychopharmacologic effects in humans which spurred research on Amanita Muscaria, the chemical agent (or agents) which give rise to the effects has not been reported in the literature.

An impressive amount of work has been reported by many workers on the isolation and proof of structure of muscarine from Amanita Muscaria. This alkaloid of unusual structure and high toxicity has physiological effects in humans and test animals which bears slight resemblance to the main effects of the ingested whole mushroom. Salts of muscarine have been isolated in pure form and its structure

isolation of the hallucinogenic principle from Psilocybe Muscaria. As is traditional in the field of scientific research, the first step was the search for a new alkaloid as the active principle. In 1907, even before the discovery of a structural and exclusive alkaloid called psilocybin by Reichstein in 1957, had appeared.

In our work, rather than following traditional extraction procedures for isolating alkaloids, we attempted to concentrate neutral or even slightly acidic fractions. But more important, immediately after fractionation was followed by bioassay in order to separate those fractions which produced in test animals effects like those produced by the hallucinogenic principle produced an effect like muscarine. The method of Reichstein (Ann. N.Y. Acad. Sci. 65: 655 (1957)) was followed. By this procedure we have been able to obtain two main fractions in which are separated concentrated LSD-25 and muscarinic activity.

SLIDE II

Here are shown references to early knowledge of the fungus. The first four are extremely interesting and largely technical.

The last reference is an excellent one to review the work on muscarine up to 1953.

SLIDE III

These important papers point out the inherent difficulties involved in the isolation of muscarine. The first alkaloid extract was isolated by Schiffberg in 1860. However, Fligge in 1922 was the first to obtain pure salts of the base. Snyder, in an attempt to locate a more fruitful source, tried Inocybe species without notable improvements. Balenovic's reported yields are for crude extracts, not the pure salt.

SLIDE IV

These references indicate some of the attempts to isolate the hallucinogenic principle of Psilocybe Muscaria. Walsby and Motzel reported the presence of Bufotenin in Psilocybe Muscaria, Pantherium and Muscarius. The alkaloid mappine reported from A. Mappa was found to be identical to Bufotenin. The Bufotenin was not actually isolated but was identified by chromatography. Furthermore, considerable doubt is cast on this assertion as well as that by Levie as a result of subsequent work by Levie, Levie and Brady as well as our own work which revealed no

SLIDE VIII

A.M. 10 - The water soluble extract is triptic with a strong fecal odor. Following the procedure used by [redacted] in isolating Pilocybin, we obtained traces of a crystalline compound which has not been identified. Its IR spectrum is not similar to pilocybin, bufotenin and related compounds. Paper chromatography has shown the presence of ipicolic acetic acid and tryptophane in this fraction.

SLIDE IX

The  was collected about 200 lbs. of Amantia B
Miscaria for our work. The fresh plants were immediately dropped into methanol

The extraction procedure shown on the previous slides was used with 200 lbs. of *Trachea Muscaria*.

SLIDE XIII

The alcoholic extract was fractionated with acetone to remove protein materials.

SLIDE XIV

The acetone-soluble fraction was partitioned with 80% ethyl alcohol and 70% aqueous methanol. The oily fraction A, containing esters, was similar to previous oily fractions. Bioassay indicated a complete absence of muscarinic activity.

The aqueous methanol fraction was separated into an ether-soluble fraction B and an ether-insoluble portion C.

SLIDE XV

The fraction containing essential oils was subjected to silica column chromatography and two main fractions were obtained. These were examined in more detail. Although quite similar in terms of neutralization equivalent and saponification equivalent, the bioassay indicated considerable difference. Hyperpyrexia activity was concentrated in II and hygroscopic activity was concentrated in I. Gas chromatography of the methyl esters revealed a "normal" distribution of fatty acids.

An oily fraction 'A' was obtained from the aqueous phase of extract.

SLIDE XXIII

The residue from the alcohol-methanol extract was further extracted with absolute ethanol. From this, extract 'B' was obtained. The residue on 80% extraction gave fraction 'C'.

SLIDE XXIV

Fraction 'B' was obtained a crystalline product which upon purification melts at 153°C. This material is neither aromatic nor indolic and has not been identified.

SLIDE XXV

The supernatant fraction 'B' on extraction with ether-chloroform gave an oil in all respects similar to the oil referred to previously which exhibited 150-170 type activity. The ether insoluble portion was extracted with chloroform and a fraction 'A' was obtained which yielded a crystalline product as yet unidentified.

In summary, in our investigation of *Junonia Manilla* we have isolated trans-cinnamic acid, D,L-ascorbic acid and several other unidentified crystalline substances. Indol acetic acid and tryptophan have been detected but sulfolin and hyssopamine have not been. A rather large essential oil fraction has been obtained in which is concentrated 130-25 activity. Also, a alkaline concentrate of high potency has been obtained.

Note at a later date. From this oil has been separated an unidentified crystalline substance.

residue fractionation.

SLIDE XVIII

Until now we have been considering the acetone soluble fraction of the extract of the Salvia Mucronata. Here is shown an attempt to fractionate the acetone insoluble portion. Diethyl ether extracted a fraction "C" which compared favorably in muscarinic type action with muscarine itself. The lethal dose was 4.9 mg/kg, compared with 6-10 mg/kg reported for Schuldenberg's muscarine, when injected intraperitoneally in mice. In other biological tests "C" compared favorably with muscarine.

The diethyl ether soluble portion was extracted with ethanol to give a fraction "D" which contained only slight muscarinic activity and slight L.S.D.-like activity.

SLIDE XIX

"C" as prepared by this method yielded crystals of D,L-sorbitol. The supernatant resisted further purification by chromatography.

SLIDE XX

The residue from previous chromatography was exhaustively fractionated with ether and tetrahydrofuran. The major product obtained was additional crystalline material, similar to that obtained from "F". It is possible that this material is related to muscarine or scopolamine.

J 2 37
~~37~~

Research Plans for 1960-61.

As indicated in the accompanying progress reports and papers related to the research supported by the grant, several crystalline substance have been isolated from Amanita Muscaria and Rivea Corymbosa. Future work will be organized to accomplish the following objectives:

1. Ascertain, by means of biological testing, which, if any, of the crystalline materials exhibit significant physiological effects in test animals. (This work is being carried out under the supervision of Dr. [redacted] at the [redacted] [redacted])
2. Complete fractionation and purification of crude concentrates which exhibit physiological effects in test animals.. When pure crystalline substances are isolated they will be identified or structural elucidation will be attempted.
3. For those substances, which exhibit significant physiological effects and which have novel structure, an attempt will be made to synthesize them and compounds with related structure in order that relative physiological activity can be determined.

D, C

At the recent [redacted] it was revealed that Dr. [redacted] of [redacted] in [redacted] has isolated three indolic compounds related to Lysergic acid from Rivea Corymbosa. Also it was learned by private conversation that research teams of several of the countries leading drug firms have isolated flavanoid glycosides from Rivea Corymbosa. The structures have not been determined nor has work been published other than that by [redacted] and [redacted] in [redacted] (1960). As a result of these developments less emphasis will be directed toward continuation of this investigation. Dr. [redacted], who as a pre-doctoral graduate student worked on this problem, is now located at [redacted], [redacted] and plans to complete structural elucidation of the glycoside isolated in our laboratory from Rivea Corymbosa. If it is possible to obtain a sizable quantity of Rivea Corymbosa from an area in [redacted] where the plant is used for medicinal or occult purposes, then it is proposed that the sample be carefully investigated to ascertain if it contains indolic compounds or glycosides significantly different from the samples collected in areas where the plant is not utilized for its physiological action.

C.B.

C

C

F

2238

PROPOSED BUDGET FOR FISCAL YEAR 1960-61

November 1, 1960 - October 31, 1961

Research Fellowship (a) \$200 per month -----	\$2400	} salary
Miscellaneous student help (a) \$1.50/hr. (400 hrs.) ----	600	
Stipend for senior investigator (during summer) -----	1500	
Special chemicals, natural product samples, and supplies (expendable) -----	500 ✓	
Special analyses on research samples -----	350 ✓	
Travel and communication in connection with project ----	600 ✓	
Special books, reprints, manuscript and slide preparation and translations related to project -----	150 ✓	

Capital Items:

1. Ozone meter for ozonolysis apparatus which we have -----	100	
2. Matching funds for photoelectric attachment for Model No. 80 Rudolph Polarimeter -----	500	
3. Components (sweep unit, coils and probe) to adapt our NMR for fine line work in connection with project -----	<u>1400</u>	
	\$8100	
Indirect costs (15% of request) -----	<u>1200</u>	\$1215
Total request in renewal of grant -----	\$9300	

Signed/ _____
C

BUSINESS OFFICE

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
OLOLURUI

INCOME:

[REDACTED]

\$11,067.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00	
Supplies and Expenses	1,840.79	
Equipment	1,197.00	
Overhead	<u>1,454.78</u>	
Total Expenditures		<u>10,401.57</u>

Balance as of October 31, 1960

\$665.43

I have examined and approved the submitted expenditures.

[REDACTED]

Chief
ISS/Chemical Division

I certify that the above statement of account is correct.

[REDACTED]

Business Manager

Date: 11/22/60

C 22
22 37
C

[Redacted]

B

22-40
~~2-2-40~~

[Redacted]

B

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
OLOLIUQUI

INCOME:

[Redacted]

B

\$11,067.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00	
Supplies and Expenses	1,840.79	
Equipment	1,197.00	
Overhead	1,454.78	
Total Expenditures		<u>10,401.57</u>

Balance as of October 31, 1960

\$665.43

I certify that the above statement of
account is correct.

[Redacted Signature]

[Redacted Title]

Business Manager

C

C

BUSINESS OFFICE

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
OZOLTUQUI

INCOME:

[REDACTED]

B

\$11,067.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00	
Supplies and Expenses	1,840.79	
Equipment	1,197.00	
Overhead	1,454.78	
Total Expenditures		<u>10,401.57</u>

Balance as of October 31, 1960 \$665.43

I certify that the above statement of account is correct.

[REDACTED]

[Signature]

I have examined and approved the submitted expenditures.

[REDACTED]
Business Manager

[REDACTED]
Chief
TSS/Chemical Division

A

Dated 24 March 1961

COPY

Department of Chemistry
October 7, 1960

DEPARTMENT OF CHEMISTRY

Attention: [redacted] Assistant Treasurer

Dear [redacted]

Attached are two copies of an application for renewal of the grant which now supports a research project under my supervision. An account of funds for the past year will be supplied by our fiscal office at the end of the month. If there is additional information which you desire, I will be happy to try and supply it. I would like to express my appreciation for your support which is making possible the research reported in the attached application.

Sincerely yours,

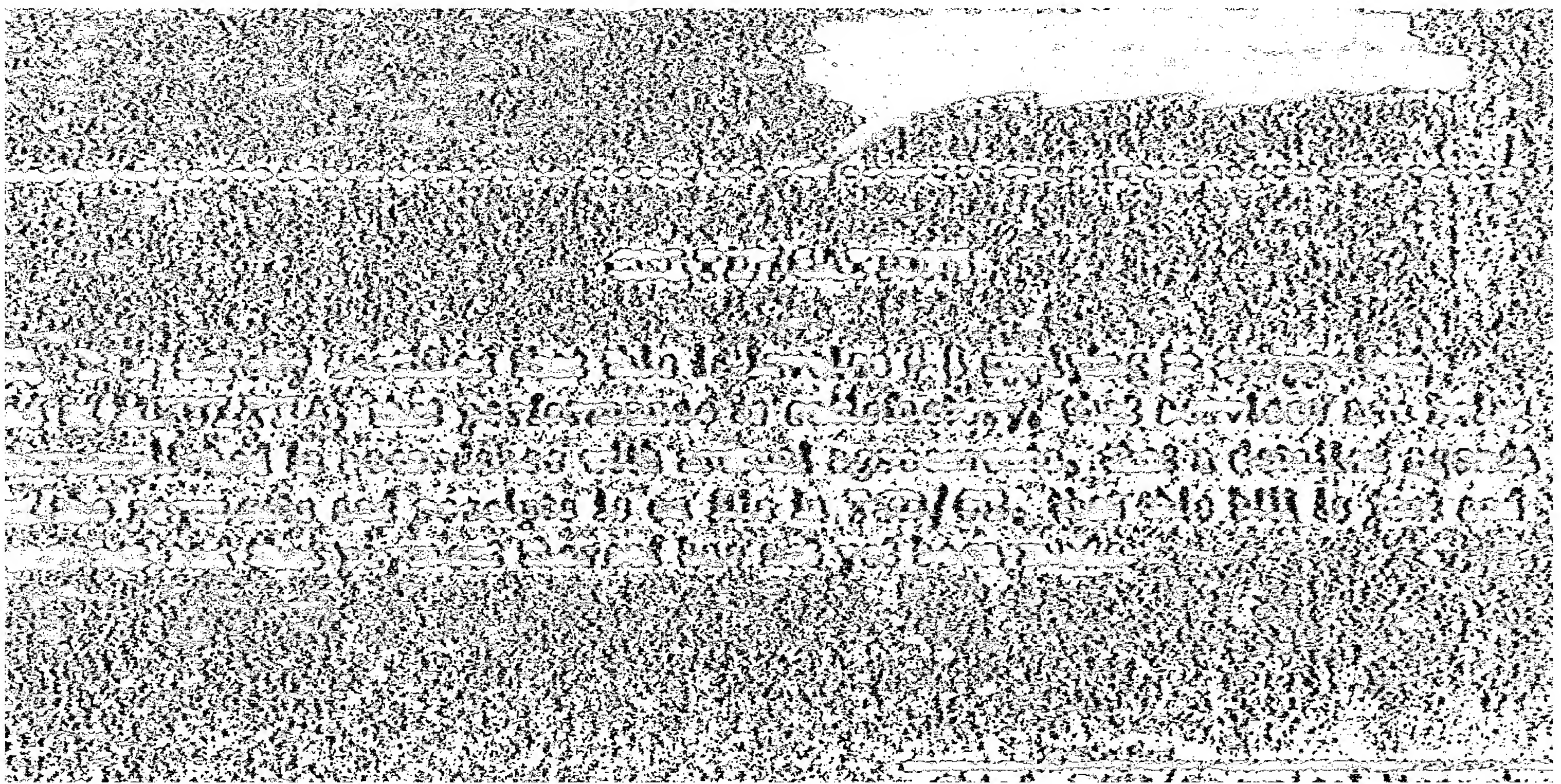
[redacted] Head
Department of Chemistry

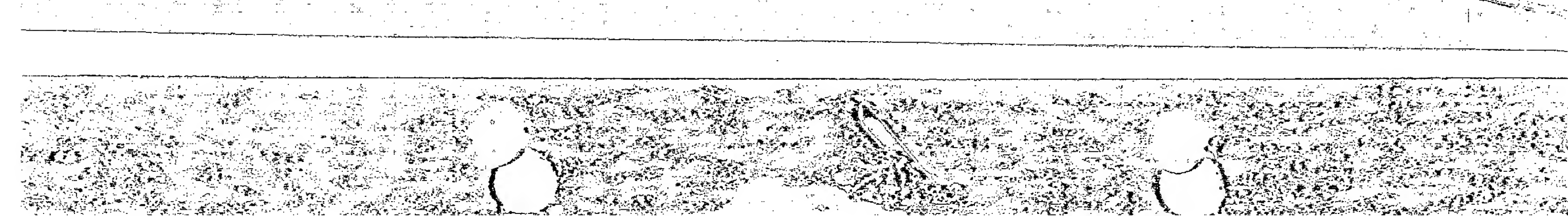
attachment

cc: [redacted]

B This is the letter and proposal sent to [redacted]. The budget is the same as I sent to you.

C About Tuesday I will send you my comments on the symposium
Sincerely
[redacted]





22-44

27 January 1960

MEMORANDUM FOR: THE RECORD

SUBJECT : Action on MKULTRA Audit Exceptions -- TSS/CD

SP#22

A. \$1,703.57 was used for SP#51 per memo dated 21 August 1959. \$1,487.50 being held in [redacted] will be utilized on another project in the near future. B

[redacted]

Chief
TSS/Chemical Division

A

[redacted]

22-45

[Redacted]

B

Report of Expenditures
July 1 to October 31, 1959

Fund 6795-76
OLOLIUQUI:

Overdraft, June 30, 1959
Income: [Redacted]

B

\$ (185.32)
5,365.00
\$5,179.68

Expenditures

Salaries & Wages (including fellowships)	\$1,960.00	
Supplies and Expenses	334.24	
Equipment	1,294.63	
Overhead	<u>1,590.81</u>	
Total		<u>5,179.68</u>
Balance, October 31, 1959		-0-

[Redacted]

C

I have examined and approved the submitted expenditures.

[Redacted]

A

Chief

TSS/Chemical Division

Date: 21 Feb 1961

22

[Redacted]

AT

[Redacted]

B

22-46

July 30, 1959

[Redacted]

B

Attention [Redacted], Executive Secretary-Treasurer

C

Dear [Redacted]

Enclosed is the financial report as prepared by our treasurer on the grant which your organization made to Dr. [Redacted]. The report covers the full period from November, 1957, to June 30, 1959. We will be happy to furnish further itemizing should you so require.

C

I am happy to report that considerable progress is being made on this rather difficult project. Dr. [Redacted] has two very promising doctoral candidates assigned to the problem. They are devoting a great deal of time and concentrated effort to this investigation. We are grateful to the [Redacted] for the fine support this organization has given us for this particular investigation.

C

B

Sincerely, [Redacted]

Executive Director

C

cc/ [Redacted]

C

22

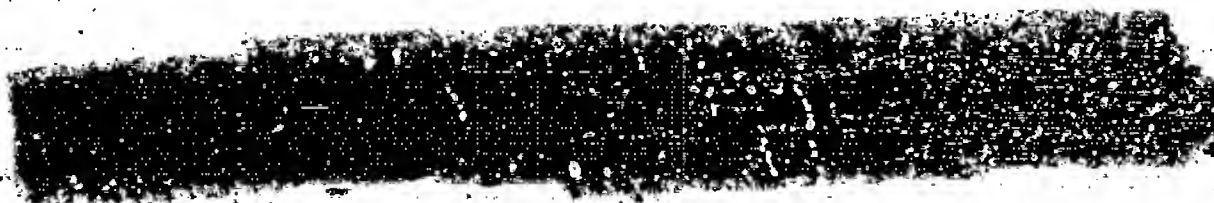
B 22-47



Period of Report
November 12, 1957
to
June 30, 1959

Fund 6795-76
OLOLIUQUI:

Income



B

\$21,684.00

Expenditures

Salaries and Wages	\$7,141.73	
Supplies and Expenses	1,418.38	
Equipment	<u>13,309.21</u>	
Total Expenditures		<u>21,869.32</u>
Overdraft, June 30, 1959		\$185.32

I have examined and approved the submitted expenditures.



A

Chief
TSS/Chemical Division

Date:

7 OCT 1959

8 September 1959

57-48

[REDACTED]

B

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check No. [REDACTED] drawn on the [REDACTED] for \$11,567.00.

EE

Check No. [REDACTED] drawn on [REDACTED] of [REDACTED] for \$462.68.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

22-57

25 August 1959

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA TSS/Budget Officer

SUBJECT MKULTRA, Subproject 22, Invoice #9
Allotment 9-2502-75-902

1. Invoice #9 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$11,567.00, drawn
on a [REDACTED] E

Cashier's check in the amount of \$462.68, drawn on
a [REDACTED] E

Both checks should be made payable to [REDACTED] B

2. The checks should be forwarded to Chief, TSS/Chemical
Division, through TSS/Budget Officer, no later than 4 September 1959.

3. This is a final invoice. However, since it is anticipated
that additional funds will be obligated for this project, the files
should not be closed.

[REDACTED]

Chief

TSS/Chemical Division

Attachment:
Invoice & Certifications

CHECK RECEIVED IN THE AMOUNT OF \$462.68

Distribution:
Orig & 2 - Addressee

[REDACTED] C

[REDACTED] E

CHECK RECEIVED IN THE AMOUNT OF \$11,567.00

RECEIVED

[REDACTED] C

INVOICE

For services

\$12,029.68

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 9 applying to MKULTRA Subproject 22, that performance is satisfactory; that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that the bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date: _____

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date: _____

CERTIFICATION

J. J. [unclear]
1525
1125
after

(3) It is hereby certified that the program under subprojects 49 and 59 have been satisfactorily completed and returned unused funds. However, subproject 22, which is still continuing also refunded money. Therefore, it is requested that the amounts as shown below on Invoice No. 10 of subproject 51-B be credited to the subprojects as shown below.

<u>Project</u>	<u>Amount</u>	<u>MOR</u>	<u>Allotment</u>
#22	\$1,703.57	585	6-2502-10-001
#49	3,224.87	1544	6-2502-10-001
#59	63.73	1912	6-2502-10-001

Chief, TSS/Chemical Division

Date: _____

Research Director

Date: _____

25 June 1959

MEMORANDUM FOR: CONTROLLER

ATTENTION : Finance Division

SUBJECT : Project MILTRA, Subproject 22
Additional Authorization #7

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$12,029.68 of the over-all project MILTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.


Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:


Research Director

Date: _____

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OC
- 1 - TSS/FASB
- 2 - TSS/CD

TSS/  (29 June 1959)

72-54-
DRAFT
25 June 1959

MEMORANDUM FOR: THE RECORD

SUBJECT : Project MKULTRA, Subproject 22

1. The purpose of this Subproject is to provide funds to continue the research of Prof. [REDACTED] on the isolation of compounds having psychogenic and related properties from natural products. [REDACTED] is concentrating his studies on Rivea Corymbosa variety and Amanita Muscaria and has isolated some active materials which are of interest. B C

2. Difficulties in obtaining properly documented raw materials in sufficient quantity for further research have been to a large extent overcome. Considerable renewed interest on the part of several drug companies of foreign origin in related fungi and plant materials believed to have central nervous system activity indicate that there may be chemical compounds in the natural products under study of considerable ^{TSD} TSS interest. B

3. [REDACTED] will serve as cutout for transfer of funds to the investigator. The estimated cost for the coming year of the work is \$^{9,300}11,567.00. To this must be added the 4% service charge to the cutout, thus the total cost for one year will not exceed \$^{9,672}12,029.68.

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

22-54

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project MKULTRA and has agreed to comply with the terms of the Memorandum of Agreement.

[redacted]

Chief
ESS/Chemical Division
TSD / Research Branch

A

APPROVED FOR OBLIGATION
OF FUNDS:

[redacted]

Research Director

Date: 6/30/59

Attached:
Budget

Distribution:
Original only

[redacted]

[redacted]

22-50

Budget for One Year Renewal of Research Project on Investigation of Amanita

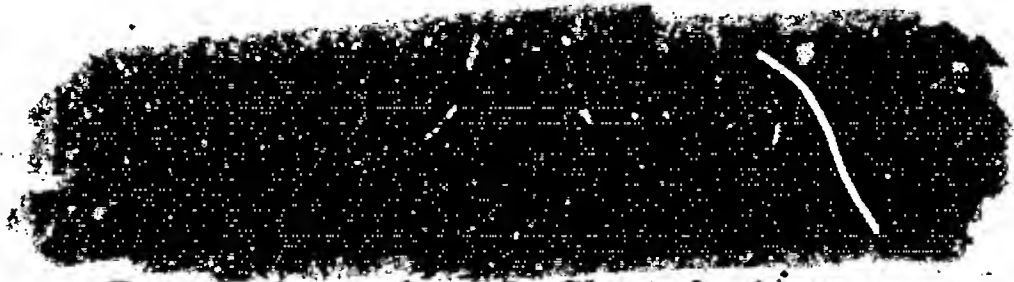
Muscaria and Rivea Corymbosa - Nov. 1, 1959-Oct. 31, 1960

Research Fellowships - two (a) \$200 per month	\$4800.00
Senior Investigator - during summer	1200.00
Capital Equipment - (Electric desalting apparatus, explosion proof homogenizer, vacuostat, spinning paper chromatography apparatus, etc.)	2410.00
Special Chemicals and supplies not ordinarily stocked by Department of Chemistry	850.00
Special analyses on research samples	300.00
Travel and telephone in connection with grant	450.00
Miscellaneous - phottocopy, monographs, etc.	50.00
	<u>\$ 10,060.00</u>

15% overhead

	<u>1,507.00</u>
--	-----------------

Total grant request \$11,567.00



Department of Chemistry

C
B

22-57


6 January 1959

MEMORANDUM FOR: COMPTROLLER

ATTENTION : Finance Division


SUBJECT : Project MULLTRA, Subproject 22
Additional Authorization #6

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the EO/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$394.68 of the over-all project MULLTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.


Chief
TSS/Chemical Division

A

APPROVED FOR OBLIGATION OF FUNDS:



A

Research Director

Date

7 JAN
1959

SEARCHED INDEXED
SERIALIZED FILED
1058
9-2502-75-902

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OD
- 1 - TSS/FASB
- 1 - TSS/SRB
- 2 - TSS/CD

OFFICER

22-60

3 November 1958

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MULLER Subproject 22, Invoice No. 8
Allotment 9-2502-75-902

1. Invoice #8 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$9,867.00 drawn on a

Cashier's check in the amount of \$394.08, drawn on a

Both checks should be made payable to

F
E

B

2. The checks should be forwarded to Chief, TSS/Chemical
Division, through TSS/Budget Officer, no later than 17 Nov. 58.

3. This is a final invoice. However, since it is anticipated
that additional funds will be obligated for this project the files
should not be closed.

[Redacted Signature]

Chief
TSS/Chemical Division

A

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller
1 - TSS/FASB

A

TSS [Redacted] w (3) 11/58) A

[Redacted]

INVOICE

For services

\$10,261.68

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 8 applying to MOULTRA Subproject 22, that performance is satisfactory; that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that the bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MOULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

4 June 1957

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: MKULTRA Subproject 22, Invoice No. 6
Allotment 7-2502-10-001

1. Invoice No. 6 is attached covering the above subproject. Payment should be made as follows:

Cashier's check in the amount of \$158.67, drawn on [REDACTED] **E**

Cashier's check in the amount of \$3,966.67, drawn on [REDACTED]

Both checks should be made payable to the [REDACTED] **E**

2. Please forward the checks to Chief, TSS/Chemical Division through TSS/Budget Officer by Tuesday, 18 June 1957.

3. This is a final invoice. A total of \$6,188.00 was obligated under this subproject during FY 57. However since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[REDACTED] **A**
Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller

CHECK # 044192 IN THE AMOUNT OF \$158.67
RECEIVED 23 JUN 1957

D. 887-001226-600.1-250210-001-1721-4125.34 **E**
C. Cash \$4,125.34

1821-250210-001-1721-4125.34 IN THE AMOUNT OF \$3966.67
RECEIVED 24 JUN 1957

CERTIFIED FOR PAYMENT OR CREDIT

RECEIVED

AUTHORIZED CERTIFYING OFFICER

5287 **A**

~~SECRET~~

INVOICE

For services

\$4,125.34

~~SECRET~~

B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 6 applying to MKULTRA Subproject 22, that performance has been satisfactory, that the services have been accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

~~SECRET~~

22-64

24 October 1958

MEMORANDUM FOR: CONTROLLER

ATTENTION: Finance Division

**SUBJECT: Project MULLINA, Subproject 22
Additional Authorization \$5**

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$9,867.00 of the over-all project MULLINA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.

~~XXXXXXXXXXXXXXXXXXXX~~
Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:

Original signed by
~~XXXXXXXXXXXXXXXXXXXX~~

Research Director

Date

I CERTIFY THAT FUNDS ARE AVAILABLE.
OBLIGATION REFERENCE No. 1058
CHARGE TO ALLOTMENT No. 9-2502-75-902

AUTHORIZING OFFICER

- Distribution:**
Orig & 2 - Addressees
1 - TSS/OC
1 - TSS/FASB
1 - TSS/SRB
2 - TSS/CD

22-65

3 November 1958

MEMORANDUM FOR: CHIEF, FINANCE DIVISION
 VIA : TSS/Budget Officer
 SUBJECT : MKULTRA Subproject 22, Invoice No. 8
 Allotment 9-250-75-902

1. Invoice #8 covering the above project is attached.
 Payment should be made as follows:

Cashier's check in the amount of \$9,867.00

Cashier's check in the amount of \$394.68, drawn on

Both checks should be made payable to

2. The checks should be forwarded to Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than 17 Nov. 58.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project the files should not be closed.

Chief
 TSS/Chemical Division

Attachments:
 Invoice & Certifications
 Distribution:
 Orig & 2 - Addressee
 1 - Comptroller

PAID
 11/13/58
 30339

10-
 999 001055 600.1 2 17.2
 119 001155 600.1 2 17.2
 1628 101-0 111 9:11

9-167,000
 394.68
 11228 101-0 111 9:11
 394.68
 08275

SECRET

~~SECRET~~

TO: TSS/OC

This is an invoice against previously obligated funds.

1. Date of Obligation: 30 October 1958

2. Purpose of Project: Extraction of
Natural Products.

3. Progress to Date: Satisfactory

4. Expiration Date: 30 October 1958

5. Project Monitor: Dr. ~~██████████~~ A

FROM: TSS/OC

Room B-1, ~~██████████~~ Ext. ~~██████~~ G

downgraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977

DRAFT

23 October 1958

IMPDET; CL BY 187475

MEMORANDUM FOR THE RECORD

SUBJECT : Project MKULTRA, Subproject 22

1. The purpose of this Subproject is to provide funds to continue the work of Prof. [redacted] on the isolation of psychogenic compounds from natural products. Prof. [redacted] has been working on Rivea Corymbosa and Amanita Muscaria and has been able to isolate a number of interesting materials from these sources.

2. Progress in this field has been somewhat delayed due to difficulties in obtaining properly documented raw materials; however, sources have now been developed which should correct this difficulty and make possible the completion of the project. The recent success of the Swiss Chemists in isolating and elucidating the structure of a new psychochemical from a fungus indicates the feasibility and the necessity of continuing work of this type.

3. The [redacted] will serve as cutout for transfer of funds to the investigator. The estimated cost of the work is \$9,867.00. To this must be added the 4% service charge to the cutout, thus the total cost for one year will not exceed \$10,261.68.

4. Prof. [redacted] has signed the Memorandum of Agreement whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

downgraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977

IMPDET; CL BY 187475

BUDGET FOR 1959-60

Salaries, two pre-doctoral fellowships, principal investigator and part-time help	5,460.00
Supplies and equipment	2,000.00
Special chemicals and materials	500.00
Special Analyses on research samples	300.00
Travel and communications	400.00
Library Service	100.00
	<hr/>
	8,760.00
	<hr/>
Total for basis of computing University overhead	7,260.00
	<hr/>
15% Overhead	1,107.00
	<hr/>
Total	9,867.00

WARNING NOTICE
SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

UNIVERSITY, [REDACTED] B

[REDACTED], Dr. [REDACTED]

July 1, 1956, through Oct. 1, 1957 C 22-67

Acct 570 -- Final Report

Balance, July 1, 1956 (Per prior report)	\$1 730 74
Receipts: August 31, 1956, 4th quarter	1 325 00
January 31, 1957, 1st quarter	1 487 50
March 18, 1957, 2nd quarter	1 487 50
June 24, 1957, 3rd quarter	<u>1 487 50</u>
Total to be accounted for	7 518 24

Expenditure and charges:

Total direct charges per prior report, 2/28/57	4 202 46
Salaries, 6 mos. @ 150.00	900 00
Travel expense, Dr. [REDACTED]	30 00
Telephone and telegraph	8 00
Supplies and Miscellaneous	<u>145 57</u>

Total Direct Charges 5 286 06

Overhead, 10% of Direct Costs 528 61 5 814 67

Unexpended Balance, Oct. 1, 1957 \$1 703 57 *

* Check for \$1,703.57 to cover refund of unexpended balance forwarded to [REDACTED]

B

22-68

Mr. [REDACTED]

2 November 1957

Dear Mr. [REDACTED]

This is to acknowledge the receipt of the following checks ;

Check #G 20251 drawn on the [REDACTED] for \$16,819.00.

Check #DM 43521 drawn on the [REDACTED] for \$672.76.

Your generous contributions are greatly appreciated. The funds will be utilized by our Board of Directors in furthering worthwhile research projects in the field of medical sciences.

Yours truly : [REDACTED]

Executive Secretary - Treasurer

POSTAGE WILL BE PAID BY ADDRESSEE

NOV 2 1957

PRAY FOR PEACE

RETURN TO [REDACTED]

141098

Address and number of recipient, name of organization, and instructions to Director of the [REDACTED] when applicable. No [REDACTED] should be attached to back of article. [REDACTED] RETURN RECEIPT REQUESTED.

Request for renewal of support for the project:

Investigation of the seed of Rivea Corymbosa(ololiuqui).

Summary of work, November 1, 1955 - September 25, 1956:

Physical examination of the seed used in this work reveals that two "types" have been under investigation. Taxonomically all the seed have been called Rivea Corymbosa although one variety (the seed are the larger of the two varieties) originated in Mexico and one variety originated in Cuba. The literature on the subject of ololiuqui, as far as I can ascertain indicates that its use as a psychic drug has been restricted to Mexico. This data alone would indicate the probability that the Cuban variety lacks some physiologically active component which the Mexican variety contains. Experimental work in this laboratory has been largely restricted to the Cuban variety (small seed since only a very small amount of the Mexican variety has been available. The chemical work, although not designed to compare the composition of the two varieties, has indicated some difference in the two. Also physiological tests on humans are indicative of a difference in the two varieties. This work is much too inconclusive to be much more than speculation at this time.

In addition to the isolation of glucose and hydroquinone as constituents of ololiuqui as reported in the last progress report, two crystalline fractions have been isolated which seem neither to be alkaloid or glycoside. Due to the small quantity of seed available the amount of these crystalline fractions is extremely small and little more than qualitative tests have been made on them. Experimental techniques, especially in extraction and separation, have been perfected which will be used to isolate pure components of the drug which, just today, has become available in sufficient quantity to make the investigation profitable.

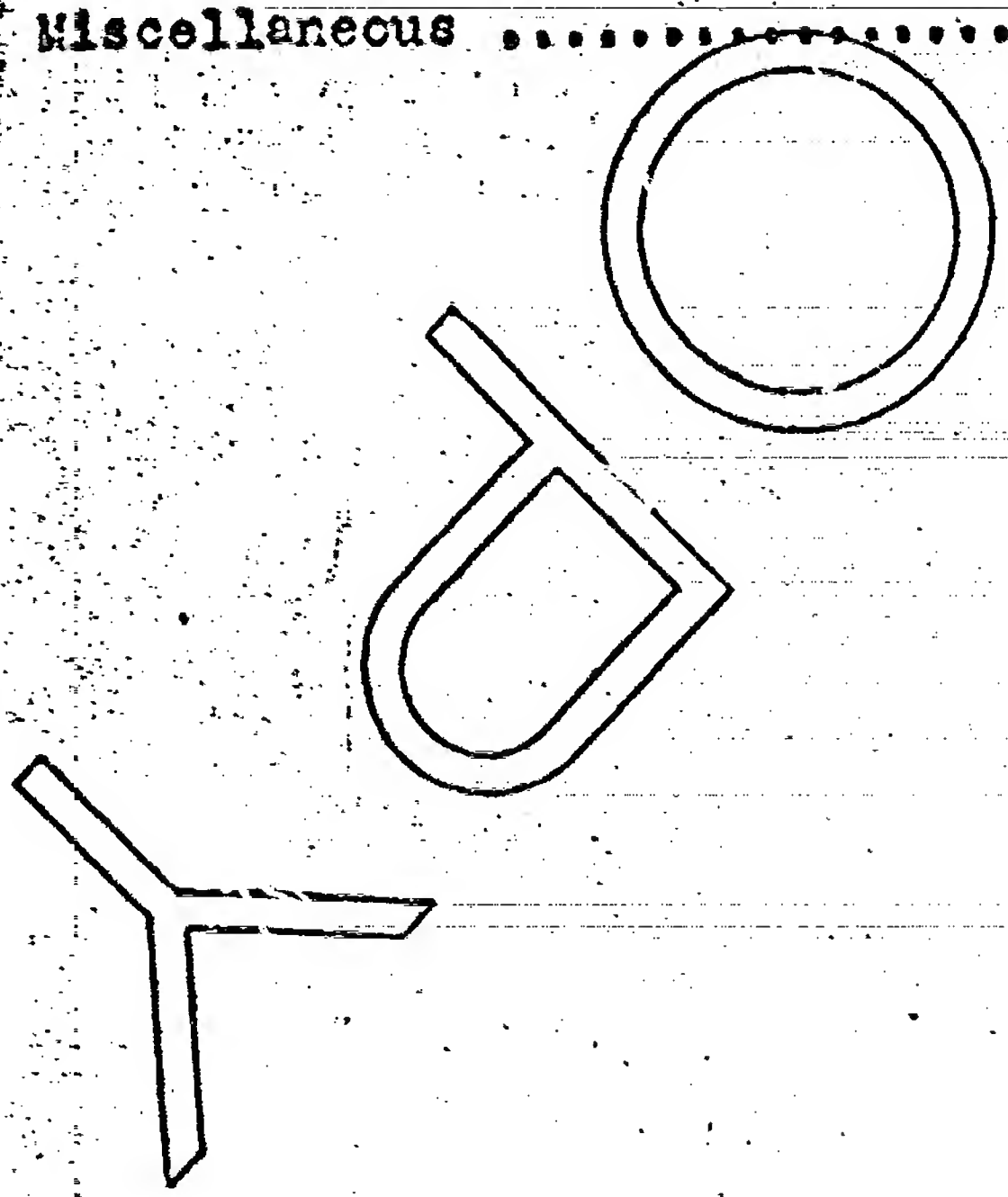
Plans for future investigation:

Now that 50 pounds of the Cuban variety and 10 pounds of the Mexican variety are available, the following lines of investigation will be actively pursued.

1. Determine conclusively if there is a chemical difference in the two varieties of seed.
2. Obtain as many "pure" components from each variety, using previously perfected techniques, as is possible.
3. Submit for physiological testing each "pure" component.
4. Subject each "pure" component to chemical examination to determine the type of compound, whether it is a known compound and its chemical composition if it is a new compound.

Proposed budget, November 1, 1956 - November 1, 1957.

Equipment (including larger scale extraction and separation equipment) and special chemicals	\$1000.00
Analyses and tests	350.00
Travel expenses	500.00
Salaries (one graduate assistant, laboratory help and director's stipend)	4000.00
Miscellaneous	100.00
Total	\$5950.00



~~SECRET~~
~~SECRET~~

14 October 1957

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MKULTRA Subproject 22, Invoice No. 7
Allotment 8-2502-10-001

1. Invoice #7 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$16,819.00 drawn on [REDACTED] E

Cashier's check in the amount of \$672.76, drawn on [REDACTED]

Both checks should be made payable to [REDACTED] B

2. The checks should be forwarded to Acting Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than Friday, 18 October 1957.

3. This is a final invoice. A total of \$17,491.76 was obligated under this subproject during FY 58. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[REDACTED] A
Acting Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller

SECRET 0143521 THE AMOUNT OF \$672.76

1957 OCT 15 AM 5:00

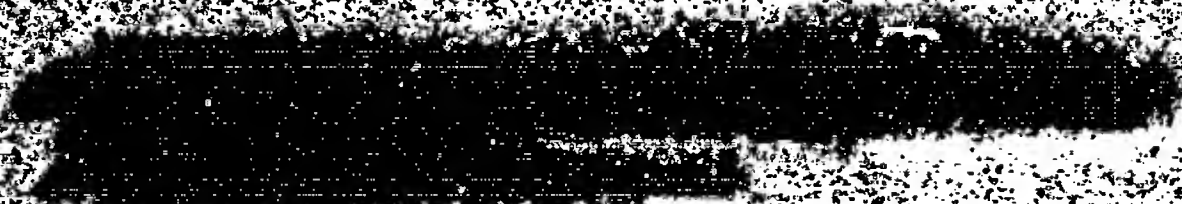
~~SECRET~~
~~SECRET~~

01905

INVOICE

For services

\$17,491.76



B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 7, applying to MKULTRA Subproject 22, that performance has been satisfactory; that the services ^{have been} accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Acting Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

orig-3



Payment should be made as follows:

Cashier's check in the amount of \$16,819.00 drawn on a

Cashier's check in the amount of \$672.76, drawn on a

Both checks should be made payable to

2. The checks should be forwarded to Acting Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than Friday, 18 October 1957.

3. This is a final invoice. A total of \$17,491.76 was obligated under this subproject during FY 58. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

Acting Chief
TSS/Chemical Division

Attachments:

Invoices & Certifications

Distribution:

Orig & 2 - Addressee

1 - Comptroller

1 - TSS/FASB

Cashiers Check dtd 22 October 1957, No. G20251, in amount \$16819.00, and
Cashiers Check dtd 22 October 1957, No. DM43521, in amount \$672.76 fwd
23 Oct. 1957 Registered Ret. Rec. Requested.

I CERTIFY THAT FUNDS ARE AVAILABLE

OF THE APPROPRIATION

FOR THIS PURPOSE

407

8-2502-10-501

H

20-11

407

8-2582-10-001

-22-

28 AUG
1957

Currency stem of Sub. 22

17,491.76

17,491.76

16 OCT
1957

Invoice # 7

17,491.76

419
8

16 OCT
1957

16 August 1957

MEMORANDUM FOR: CONTROLLER

ATTENTION: Finance Division

SUBJECT: Project MKULTRA, Subproject 22, *FF*

Under the authority granted in the Memorandum dated 13 April 1953 from the DEI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$17,491.76 of the over-all project MKULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 8-2502-10-001.

I CERTIFY THAT FUNDS ARE AVAILABLE
ORIGINATION FAS/OC: *407*
CHARGE TO ALLOTMENT NO: *8-2502-10-001*

~~XXXXXXXXXXXXXXXXXXXX~~
Acting Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:
~~XXXXXXXXXXXXXXXXXXXX~~

Research Director

AUG 26 1957

Date

- Distribution:
- Orig & 2 - Addressee
 - 1 - TSS/OC
 - 1* - TSS/PASB
 - 1 - TSS/SRB
 - 2 - TSS/CD

~~XXXXXXXXXXXXXXXXXXXX~~

Classified to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977
E2 IMPDET; CL BY 187475

22-73

DRAFT / [redacted] H

16 August 1957

MEMORANDUM FOR: The Record

SUBJECT : Project MKULTRA, Subproject 22

1. The purpose of this subproject is to provide funds to continue the work of Prof. [redacted] on the isolation of psychogenic compounds from natural products. Prof. [redacted] has been working on the seeds of Rivea corymbosa and has been able to isolate a number of materials of potential interest in this field. C

2. With the advent of feasible laboratory methods for testing psychogenic types of materials, Prof. [redacted] feels that he will be able to characterize the previously isolated materials during the coming year as outlined in the attached proposal and also fractionate Rhynchosia phasecoloides for its active principle during the same period. C

3. Prof. [redacted] was previously located at [redacted] University at [redacted]. He is now located at [redacted] University as head of the department of Chemistry. This change in position will not in any way interfere with the Agency sponsored work, in fact Prof. [redacted] will have access to more and better equipment and personnel for his research. B+C

4. The [redacted] will serve as cutout for transfer of funds to the investigator. The estimated cost of the work for a period of one year beginning 1 September 1957 is \$16,819.00. To this must be added the 4% service charge to the cutout, thus the total cost for one year will not exceed \$17,491.76. B

5. Prof. [redacted] has signed the Memorandum of Agreement whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant. C

6. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.


7. Dr. [redacted] holds a covert clearance under Project MKULTRA and C

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977
E2 IMPDET; CL BY 187475

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977


E2 IMPDET; CL BY 187475

has agreed to comply with the terms of the Memorandum of Agreement.


Acting Chief
TSS/Chemical Division

Attachment:
Proposal

APPROVED FOR OBLIGATION OF FUNDS:


Research Director

Date

26 Aug. 1957.

Distribution:
Original only

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

E2 IMPDET; CL BY 187475

PROPOSED RESEARCH PROGRAM

CHEMICAL INVESTIGATION OF THE SEED OF RIVEA
CORYMBOSA - OLOLIUQUI

Work completed or in progress:

It has been ascertained that there are at least two types of seed from the plant identified as Rivea Corymbosa. One is found in Mexico the other in Cuba. Their apparent composition and physiological action on organisms differs.

From both seed, glucose and hydroquinone have been isolated and identified. One additional compound has been obtained in crystalline form, apparently pure. This compound is being studied. The bulk of the drug seems to be a glycosidic mixture. This mixture has, to date, been subjected to numerous methods and techniques designed to separate the component parts. None has proved successful. The mixture appears, on the basis of many tests, to contain a small amount of alkaloid. It is not known whether the alkaloid is an integral part of the glycoside or not.

Physiological tests using animals and humans have been inconclusive and confusing. Enough positive results have been obtained, however, to point out the need for more carefully designed and controlled tests.

Proposed work:

It is proposed to:

1. Complete identification of the unknown crystalline compound.
2. Perform physiological tests using this compound.
3. Fractionate the glycosidic mixture. Counter-current extraction which has not been used to date will be tried.
4. Identify and prove structure of components of the mixture.
5. Perform physiological tests using the components of the glycosidic mixture.

WARNING NOTICE

SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

Budget:

Salaries, two pre-doctoral
fellowships, principal
investigator and part time
help. \$4500

Equipment and Supplies. 9575

Travel connected with research. 300

Analyses, special chemical,
special literature, etc.. 250

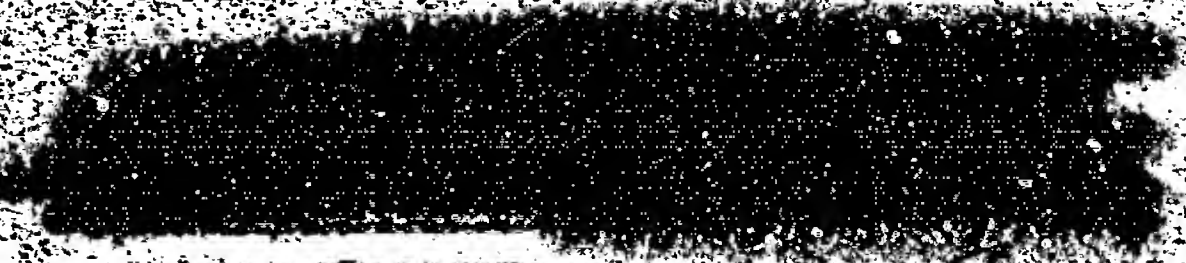
\$13,625

n Total

15% Overhead 2,194

Requested in grant \$16,819

Signed


Principal Investigator

22-74

ANGE
mm

RECEIPT

Receipt is hereby acknowledged of the following two checks:

Treasurer's check No. T63248, dated June 14, 1957, drawn
on the [REDACTED] in the amount ^E
of \$3,966.67, payable to the [REDACTED] ^B

Cashier's check No. DM 41928, dated June 12, 1957, drawn
on [REDACTED] in the amount ^E
of \$158.67, payable to the [REDACTED] ^B

[REDACTED] ^A
Date: 6/23/57

RECEIPT

Receipt is hereby acknowledged of the following two checks:

Treasurer's check No. T63248, dated June 14, 1957, drawn
on the [REDACTED] in the amount
of \$3,968.67, payable to the [REDACTED] E B

Cashier's check No. DM 41928, dated June 12, 1957, drawn E
on [REDACTED] in the amount
of \$158.67, payable to the [REDACTED] B

Date:

Sent to Mr. [REDACTED] June 24, 1957
A

22-76

22

[REDACTED]

B

March 20, 1957

Dr. [REDACTED] M.D., Director
[REDACTED]

C

Dear Dr. [REDACTED]

Enclosed please find in duplicate our statement of funds on Alkaloids of the Drug known as "Piule" for the period from July 1, 1956 through February 28, 1957. The balance shown thereon is \$1,406.82. We thank you for your interest in our projects.

Yours very truly,

[REDACTED] UNIVERSITY
[REDACTED]
[REDACTED]

Auditor

C

H

cc: Dr. [REDACTED] Assistant Program Director

Dr. [REDACTED], Chemistry Dept. [REDACTED] University
Dr. [REDACTED]

C

WARNING NOTICE
SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

JULY 1956 THROUGH FEBRUARY 1957

RECEIPTS:

Balance June 30, 1956	1,730.74	
August 31, 1956 Receipt - 4th Quarter	1,525.00	
January 31, 1957 Receipt - 1st Quarter	<u>1,307.50</u>	4,563.24

DISBURSEMENTS:

37001 Salaries-		
July 1956 through February 28, 1957	1,300.00	
Dr. [REDACTED] Graduate Assistant		
8 Months at 150.00	1,200.00	
Student Help	39.70	
[REDACTED] (Jan. 24 Ok. 138103)	6.00	
Workman's Compensation	<u>2.05</u>	2,546.75
37023 Travel-		
August - Sept. 1956 - Dr. [REDACTED], J.V. 1090 to 5123		351.51
37070 Supplies & Other Expense-		
Longdistance telephone calls-		
August 1956	9.12	
November 1956	2.70	
January 1957	6.33	
February 1957	<u>2.58</u>	20.73
Plant charges & freight-		
September 1956	6.65	
October 1956	9.03	
November 1956	2.19	
February 1957	<u>8.90</u>	26.77
Sept. 30, 1956, Ok. 98610- [REDACTED]		
1 lb. 767 Alumina neutral 100-200 mesh		6.00
Oct. 31, 1956 Ok. 109310 [REDACTED]		
1 lb. 750 Basic Alumina		6.00
Oct. 31, 1956 Ok. 110170 [REDACTED]		
1000 GM-N-22975A Cellulose Powder-Achless Std.		6.00
Nov. 21, 1956, Ok. 120503 [REDACTED]		
1000 GM-N-22975A Cellulose Powder, Achless Std.		6.00
Nov. 22, 1956, Ok. 122330 [REDACTED]		
1 pc. 1" O.D. X .083" Wall T-304 Welded A269		
1/2" Steel Tubing X 2 1/2" exact		21.96
Nov. 27, 1956 Ok. 123100 [REDACTED]		
120 S79505 Test tubes 150 x 19 H	7.00	
120 S79505 Test tubes 175 x 22 H	10.00	
1 S65820 Percolator C-7920-3 Liter	11.62	
5 gal. Iso Propyl Alcohol	10.00	
5 gal. 99% Iso Propyl Alcohol in 5's	7.50	
3 bags Ethylene Chloride EK132 in 3's	3.35	19.47
Dec. 31, 1956 Ok. 131810 [REDACTED]		
1. yophilizer, glass, with 2 1/2" outlets,		
in manner of vacuum flask, 16" overall length		30.00
Dec. 31, 1956 Ok. 132270 [REDACTED]		
2-S73305 #15 Rubber stoppers		2.00
Jan. 28, 1957 Ok. 141760 [REDACTED]		
50 lbs. Standard Super-Gel (Celite)		3.75

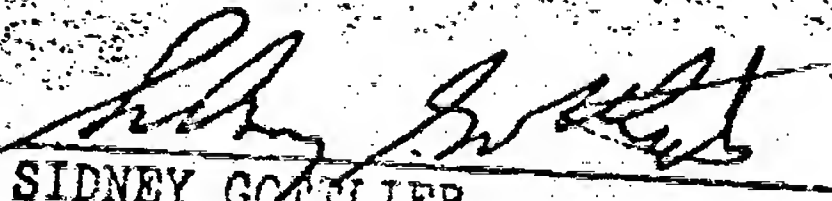
I have examined and approved the submitted expenditures.

Sidney Gottlieb
 SIDNEY GOTTLIEB
 Chief
 TSS/Chemical Division

Date: MAR 3 1957

Jan. 28, 1957 Ck. 142		19.02	
2 gal. N-Butyl Alcohol Reagent JTBS-905			
Feb. 19, 1957 Ck. 1458		7.50	
Repair work on glass			
Feb. 20, 1957, Ck. 1478			
Work on samples VI-4-6, Cook		18.00	
Carbon-Hydrogen 8.00 & Molecular Weight 10.00			
Feb. 28, 1957 Ck. 3650		390.00	610.20
1 Ranco Evaporator, Multiple unit, 4 stage			
Total Disbursements-Direct Expense			3,508.46
Disbursements for Equipment			
Nov. 21, 1956 Ck. 12050		409.00	
1 H-10964 Fraction Collector			
Jan. 24, 1957 Ck. 14292		275.00	694.00
1 17220 Blender			
Total Disbursements			4,202.46
Balance in Fund February 28, 1957			310.78
before deducting allowance for overhead			1,487.50
Add Receipt 11759, March 18, 1957			1,827.23
Deduct allowance for Overhead			120.46
10% of 4,202.46			
Projected Balance as of February 28, 1957			1,406.82

I have examined and approved the submitted expenditures.


 SIDNEY GOTTLIEB
 Chief
 TSS/Chemical Division

Date: MAR 3 1957

RECEIPT

Receipt is hereby acknowledged of the following two checks:

Cashier's check No. A106633, drawn on the [REDACTED], dated 21 December 1956, in the amount of \$1,983.33.

Treasurer's check No. 147713, drawn on the [REDACTED], dated 19 December 1956, in the amount of \$79.33.

Both checks are payable to the [REDACTED] Inc.

Date:

3 Jan '57

~~SECRET~~

22-78

13 December 1956

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: MKULTRA Subproject 22, Invoice & Allotment 7-2502-10-001

1. Invoice No. 4 is attached covering the above subproject. Payment should be made as follows:

Cashier's check in the amount of \$1,983.33, drawn on [REDACTED]

Cashier's check in the amount of \$79.33, drawn on [REDACTED]

Both checks should be made payable to the [REDACTED]

2. The checks should be forwarded to Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than Monday, 31 December 1956. Other invoices will follow.

SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller
1 - TSS/FASB
2 - TSS/CD

TSS/CD: [REDACTED] (13 Dec 1956)

I CERTIFY THAT FUNDS ARE AVAILABLE:
OBLIGATION NUMBER: 1226
CHARGE TO ALLIANCE NO. 7-2502-10-001

CHECK # 1100633 IN THE AMOUNT OF \$1983.33 RECEIVED. 20 DEC 1956

CHECK # 147713 IN THE AMOUNT OF \$79.33 RECEIVED. 20 DEC 1956

5:16 PM

INVOICE

For services

\$2,062.66



CERTIFICATIONS

(1) It is hereby certified that this is Invoice 4 applying to MKULTRA Subproject 22, that performance is satisfactory, that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

~~SECRET~~

22-79

5 December 1956

MEMORANDUM FOR: COMPTROLLER

ATTENTION: Finance Division

SUBJECT: MKULTRA Subproject 22,
Additional Authorization No. 3

1. Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A and the extension of this authority in subsequent memoranda, Subproject 22 was previously approved. Under the same authority an additional sum of \$6,188.00 has been authorized to cover the subproject's expenses.

2. This expenditure should be charged against Allotment 7-2502-10-001.

SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION
OF FUNDS:

Original signed by

A

Research Director

Date:

7 DEC 1956

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OC
- ✓ 1 - TSS/FASB
- 1 - TSS/SRB
- 2 @ TSS/CD

TSS/CD: ~~██████████~~ (5 December 1956)

I CERTIFY THAT FUNDS ARE AVAILABLE
 OBLIGATION REFERENCE NO. 1296
 CHARGE TO ALLOTMENT NO. 7-2502-10-001
 AUTHORIZING OFFICER

DEC 10 1956 11 25 AM '56

UNCLASSIFIED

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

22-80
DRAFT H

E2 IMPDET; CL BY 187475

5 December 1956

MEMORANDUM FOR: THE RECORD

SUBJECT: Project MKULTRA, Subproject 22

1. The purpose of this project is to provide funds to carry out the isolation and characterization of the intoxicating substances present in certain varieties of Rivea corymbosa.

2. Dr. [REDACTED] of [REDACTED] University has conducted studies on this material which have lead to the development of methods which can now be applied to large samples of seed, thereby allowing the production of sufficient quantities of the active materials for definitive biological testing and characterization. Dr. [REDACTED] has submitted the attached proposal to carry out this work as directed by TSS/CD.

3. The [REDACTED], will serve as cutout for transfer of funds to the investigator. The estimated cost of the work is \$5,950.00 for one year. To this must be added a four percent service charge for the [REDACTED] amounting to \$238.00. Therefore, the total cost of this investigation for one year will not exceed \$6,188.00.

4. In accordance with the Memorandum of Understanding with Dr. [REDACTED], the University shall retain title to any permanent equipment in lieu of higher overhead rates.

5. The [REDACTED] has made arrangements for the return of unexpended monies received under a grant from the Fund and also has requested that the University submit to it a summary accounting for all monies received therefrom.

6. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

E2 IMPDET; CL BY 187475

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

- 2 -

E2 IMPDET; CL BY 187475

7. Dr. [REDACTED] holds a covert clearance under Project MKULTRA C
and has agreed to comply with the terms of the Memorandum of Agreement.

[REDACTED]
Chief, Branch II
TSS/Chemical Division

Attachment:
Proposal

Approved:

APPROVED FOR OBLIGATION
OF FUNDS:

[REDACTED]
fr Sidney Gottlieb
Chief
TSS/Chemical Division

[REDACTED]
Research Director

Date: 7 DEC 1953

Distribution:
Original only

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

E2 IMPDET; CL BY 187475

Request for renewal of support for the project:

Investigation of the seed of Rivea Corymbosa(ololiuqui).

Summary of work, November 1, 1955 - September 25, 1956:

Physical examination of the seed used in this work reveals that two "types" have been under investigation. Taxonomically all the seed have been called Rivea Corymbosa although one variety (the seed are the larger of the two varieties) originated in Mexico and one variety originated in Cuba. The literature on the subject of ololiuqui, as far as I can ascertain indicates that its use as a psychic drug has been restricted to Mexico. This data alone would indicate the probability that the Cuban variety lacks some physiologically active component which the Mexican variety contains. Experimental work in this laboratory has been largely restricted to the Cuban variety (small seed since only a very small amount of the Mexican variety has been available. The chemical work, although not designed to compare the composition of the two varieties, has indicated some difference in the two. Also physiological tests on humans are indicative of a difference in the two varieties. This work is much too inconclusive to be much more than speculation at this time.

In addition to the isolation of glucose and hydroquinone as constituents of ololiuqui as reported in the last progress report, two crystalline fractions have been isolated which seem neither to be alkaloid or glycoside. Due to the small quantity of seed available the amount of these crystalline fractions is extremely small and little more than qualitative tests have been made on them. Experimental techniques, especially in extraction and separation, have been perfected which will be used to isolate pure components of the drug which, just today, has become available in sufficient quantity to make the investigation profitable.

Plans for future investigation:

Now that 50 pounds of the Cuban variety and 10 pounds of the Mexican variety are available, the following lines of investigation will be actively pursued.

1. Determine conclusively if there is a chemical difference in the two varieties of seed.
2. Obtain as many "pure" components from each variety, using previously perfected techniques, as is possible.
3. Submit for physiological testing each "pure" component.
4. Subject each "pure" component to chemical examination to determine the type of compound, whether it is a known compound and its chemical composition if it is a new compound.

WARNING NOTICE

SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

Proposed budget, November 1, 1956 - November 1, 1957.

Equipment (including larger scale extraction and separation equipment) and special chemicals	\$1000.00
Analyses and tests	350.00
Travel expenses	500.00
Salaries (one graduate assistant, laboratory help and director's stipend)	4000.00
Miscellaneous	100.00
Total	\$5950.00

WARNING NOTICE
SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

for the [redacted] 22-51
SUB [redacted]
FILE # 22

B
[redacted] UNIVERSITY
[redacted] - Dr. [redacted] **C**
Summary of Operations

	3-1-1954 THROUGH 4-30-1955	5-1-1955 THROUGH 3-31-1956	4-1-1956 THROUGH 6-30-1956	TOTAL
Receipts:	7 700 00	1 325 00	1 325 00	10 350 00
Expenditures:				
Salaries	2 640 04	1 079 00	1 005 66	
Travel	230 00	180 00	-	
Apparatus, Supplies and Expense	979 72	445 17	68 15	
Equipment	2 325 00	-	87 50	
Total Direct Expendi- tures	6 174 76	1 704 17	1 161 31	
Overhead Allowance -10%	617 47	170 42	116 13	
Total Expenditures	6 792 23	1 874 59	1 277 44	9 944.26
Balance in Fund:				
June 30, 1956 (for 2 quarters)				405 74
May 23, 1956 Receipt A 30002 - for 3rd quarter				1 325 00
				<u>1 730 74</u>

I have examined and approved the submitted expenditures.

Sidney Gottlieb
SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

JUN 7 1956
JUN 17 1956

B
UNIVERSITY, [REDACTED] C

DR [REDACTED]

APRIL 1 THROUGH JUNE 30, 1956

37001 - Salaries

March 30 JV 2587

Dr. [REDACTED] - Omitted from previous summary

400 00 C

March Through June

[REDACTED] - Graduate

Assistant - 4 mo at 150 00

600 00

37002 -

May 31 JV 7781

Student Help

5 00

37003 -

May 31 JV 2796

Workmen's Insurance

66

1 005 65

37052 & 70 -

April 20

Supplies and Expense -

ck 50230 [REDACTED]

Carbon hydrogen (1) 7 20

Mol. Wt. (1) 5 00

Special drying (1) 3 00

15 20 B

April 30

ck 52780 - [REDACTED]

The Alkaloids Vols. 11 & 12

20 94 B

ck 5340 C [REDACTED]

Chemicals & Supplies

6 64

April 30

Telephone Calls

4 07

June 18

Rec. 30719 Reimbursement

for breakage (claim)

(2 85)

May 31 JV 2730

P/C - Phone Call [REDACTED]

to [REDACTED]

6 15 H

June 29

ck 75090 - [REDACTED]

Domex 3x4, 20-50 Mesh

18 00

68 15 B

37087

May 31

Equipment -

ck 6726 C - [REDACTED]

Infra absorption Spectra

25 00 C

Standard Spectra

1 00

Identification

24 00

ck 6051 C - [REDACTED]

Flex-Mix Magnetic Stirrer

37 50

87 40

Total

B 1 161 31


B

UNIVERSITY, DR. C

SUMMARY OF OPERATIONS

	3-1-1954 THROUGH 4-30-1955	5-1-1955 THROUGH 3-31-1956	4-1-1956 THROUGH 5-22-1956	TOTAL
RECEIPTS:	7 700 00	1 325 00	1 325 00	10 350 00
EXPENDITURES:				
Salaries	2 640 04	1 079 00	150 00	
Travel	230 00	180 00	-	
Apparatus, Supplies and Expense	979 72	445 17	46 85	
Equipment	2 325 00	-	37 50	
Total Direct Expenditures	6 174 76	1 704 17	234 35	
Overhead Allowance - 10%	617 47	170 42	23 43	
Total Expenditures	6 792 23	1 874 59	257 78	8 924 60
Balance in Fund:				
March 31, 1956		358 18		
May 22, 1956				1 425 40
Supplemental Receipt - No. A 30002- 5/23/56				1 325 00
Adjusted Balance				2750 40

I have examined and approved the submitted expenditures.


SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

Date: JUN 1 1956 JUN 1 1956

9561 1 NOC

22-84

D

A

ANGIE FIVE

[REDACTED]

Receipt

722

Receipt is hereby acknowledged of the following two checks:

Cashier's Check No. DM 35758, drawn on the [REDACTED] dated April 23, 1956, in the amount of \$3,533.34, payable to the [REDACTED]

E

B

Cashier's Check No. 302611, drawn on the [REDACTED] dated April 26, 1956, in the amount \$141.34, payable to the [REDACTED]

E

B

[REDACTED]

A

Date: 8 May 1956

20 85
16 April 1956

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: MAULTRA Subproject 22, Invoice 2
Allotment 6-2502-10-001

1. Invoice 2 for the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$3,533.34 drawn on [REDACTED] E

Cashier's check in the amount of \$141.34 drawn on [REDACTED]

Both checks should be made payable to the [REDACTED] B

2. The above checks should be forwarded to Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than 27 April 1956.

3. This is a final invoice. A total of \$5,512.00 was obligated under this subproject during FY 56. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

SIDNEY GOTTILIES

Chief

TSS/Chemical Division

Attachments:
Invoice & Certifications

CHECK # 302611 IN THE AMOUNT OF \$ 141.34
RECEIVED 4 MAY 1956

Distribution:
Orig & 2 - Addressee
1 - Comptroller

CHECK # 0135158 IN THE AMOUNT OF \$ 3523.34
RECEIVED 4 MAY 1956

Mr 806-600-2502
cc Cash

CERTIFIED FOR PAYMENT OR CREDIT

AUTHORIZED CERTIFYING OFFICER
59032

16 April 1956

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: MULTRA Subproject 22, Invoice 2
Allotment 6-2502-10-001

1. Invoice 2 for the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$3,533.34 drawn on

Cashier's check in the amount of \$141.34 drawn on

Both checks should be made payable to the

2. The above checks should be forwarded to Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than 27 April 1956.

3. This is a final invoice. A total of \$5,512.00 was obligated under this subproject during FY 56. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

*Checks sent
8 May 56*

SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller

✓ 1 - TSS/FASB
2 - TSS/ED

I CERTIFY THAT FUNDS ARE AVAILABLE 18 APR 1956
OBLIGATION REFERENCE No. 585
CHARGE TO ALLOTMENT No. 6-2502-10-001

AUTHORIZING OFFICER

TSS/CD (16 April 1956)

APR 18 2 33 PM '56

RECEIVED

Mr. A

~~SECRET~~
INVOICE

For services

\$3,674.68

CERTIFICATIONS

(1) It is hereby certified that this is Invoice ~~4~~ applying to MKULTRA Subproject 22, that performance is satisfactory, that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

CONF 22-86
SUB PRVS 22

BUSINESS OFFICE

April 7, 1956

[REDACTED]

B

[REDACTED]

Attention: [REDACTED] M.D.
Director

C

Dear Dr. [REDACTED]

We have your letter of March 29, 1956 relative to your research grant made for the investigations of our Dr. [REDACTED]. It is indeed a privilege to serve you and your profession in this connection, and our omission of acknowledgments and statements are due to pressure of work rather than to lack of interest or gratitude in this and other projects.

C

We have prepared a set of statements covering Dr. [REDACTED] operation of your project and are enclosing three copies. These consist of a summary of the entire period from March 1, 1954 through March 31, 1956, supported by two detailed statements covering the periods March 1, 1954, to April 30, 1955, and May 1, 1955, to March 31, 1956.

C

These statements show receipt from you of \$7,700.00 on the grant to November 1, 1955 and \$1,325.00 on the second grant (\$5,300.00) to October 31, 1956. Should you desire a restatement of the operations to coincide with the grant terminations, we shall be happy to make them up accordingly.

Yours very truly,

[REDACTED] Vice President
By [REDACTED] Auditor

C

cc: Dr. [REDACTED]
Dr. [REDACTED]
Dr. [REDACTED], Budget

C

WARNING NOTICE

SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

UNIVERSITY, DR.
 SUMMARY OF OPERATIONS
 MARCH 1, 1954 THROUGH MARCH 31, 1956

	3-1-1954 through 4-30-1955	5-1-1955 through 3-31-1956	TOTAL
RECEIPTS	7 700 00	1 325 00	9 025 00
EXPENDITURES:			
Salaries	2 640 04	1 079 00	3 719 04
Travel	230 00	160 00	410 00
Apparatus, Supplies and Expense	979 72	445 17	1 424 89
Equipment	2 325 00	-	2 325 00
Total Direct Expenditures	6 174 76	1 704 17	7 878 93
Overhead Allowance - 10%	617 47	170 42	787 89
Total Expenditures	6 792 23	1 874 59	8 666 82
Balance in Fund: April 30, 1955	907 77		
March 31, 1956			<u>358 16</u>

I have examined and approved the submitted expenditures.

Sidney Gottlieb
 SIDNEY GOTTLIEB
 Chief
 TSS/Chemical Division

Date: APR 9 1956

B+C

UNIVERSITY, DR.
MARCH 1, 1954 THROUGH APRIL 30, 1955

RECEIPTS:

March, 1954	Receipt A7231	1 925 00	
May "	" A8918	1 925 00	
Sept. "	" A11598	1 925 00	
Dec. 13, "	" A14396	1 925 00	7 700 00

EXPENDITURES:

Salaries-

March 1954	JV198 - Dr.	400 00	
April "	CK10578F - Graduate assistant	16 20	
May "	JV634 - Dr.	400 00	
July "	JV752 -	27 00	
Aug. "	JV914 - " " "	15 00	
Sept. "	JV1069 - Dr.	400 00	
" "	"	163 64	
Oct. "	JV1103 " "	163 64	
Nov. "	JV1165 " "	163 64	
Dec. "	JV1266 " "	163 64	
" "	Dr.	400 00	
Jan. 1955	"	163 64	
Feb. "	"	163 64	2 640 04

Travel-

June 1954	CK 111657 - Dr.		
To meeting on alkaloid research			230 00

Payroll Expense-

May 1954	JV692 Workmen's Comp. insurance	74	
Aug. "	JV956 " " "	12	
Nov. "	JV1206 " " "	69	
Feb. 1955	" " "	69	
" "	Social security taxes	2 82	12 06

Apparatus, Supplies and Expense.

March 1954	CK9893F - Advertising in Chemical & Engineering News	11 70	
April 1954	CK10059N -	86 03	
Triunion cups & other fittings			
CK 10370F -	Laboratory equipment	86 16	
Extraction assemblies & mantles		225 02	
CK 10438F -	Car-Freight	3 21	
May 1954	CK 106050 -		
Heating mantle and support		14 75	
CK 107270 -	Chemicals	27 30	
CK 106500 -		8 95	
Internal timer			
June 1954	CK 114570 -		
3 cartons Soxhlet		10 00	
June 1954	CK 10380H -		
Suolite exchanges & absorbent		27 89	
July 1954	CK 11912N - Petty cash-		
Scissors and atomizer		2 75	

I have examined and approved the submitted expenditures.

[Signature]

APR 9 1956

LABORATORY DIVISION

UNIVERSITY

B+C

MARCH 1, 1954 THROUGH APRIL 30, 1955

Ck 12043N -		
Deeminc model & filter	5	74
Ck 12271N -		
Laboratory Jack	33	64
JV808 -		
Funnels, rubber sheeting, blade assembly, etc.	295	69
Ck 12189N - Autoro heater and blades	20	70
Aug. 1954 - Ck 11331F -		
Funnels, filter and tube	15	14
Ck 11353F -		
Dioxane Wash 2347	3	70
JV864 -		
Vol. 1 The Alkaloids	13	21
Ck 11609F -		
Chemistry	5	53
Ck 11353F -		
Tubes, reducers & mantle	14	32
Sept. 1954 - Ck 11915F -		
Heating mantle and support	22	50
Ck 12125C -		
Phenylsulfone	8	75
Ck 12126C -		
The Doors to Perception	1	33
Ck 12121C -		
Chemical Constitution	6	01
Dec. 1954 - Ck 12395C -		
Emulsia, Invertase Analy.	9	99
Jan. 1955 - Ck 11851N -		
	6	16
Feb. 1955 - Ck 13279N -		
	38	
		967 66

EQUIPMENT:

Jan. 20, 1955 Check 3443 - 12108C -
 - 1 Model DK,
 Spectrophotometer, Beckman #9500
 Less borne by Chemistry Dept. (2)

7 475 00
 5 150 00

2 325 00

Total Expenditures

6 174 76

Overhead Allowance - 10%

627 17

6 792 23

Balance Available in Fund at April 30, 1955

I have examined and approved the submitted 937 71
 expenditures.

Sidney Gottlieb
 SIDNEY GOTTLIEB
 Chief

TSS/Chemical Division

UNIVERSITY

DR.

MAY 1, 1955 THROUGH MARCH 31, 1956

B+C

Beginning Balance May 1, 1955

907 77

Receipts:

Nov. 7, 1955 Receipt 23881

1 325 00

2 232 77

Expenditures:

Salaries-

July 1955 Student Help

27 00

August 1955 " "

19 75

November 1955 " "

12 25

December 1955 Dr. [redacted]

400 00

January 1956 Graduate Assistant

150 00

" " " "

150 00

January 1956 Student Help

2 00

February " Graduate Assistant

150 00

" " Student Help

18 00

March 1956 Graduate Assistant

150 00

1 079 00

Travel-

Sept. 10, 1955 Dr. [redacted]

180 00

Apparatus, Supplies & Expense

Workmen's Compensation Insurance

1 43

Telephone

14 64

Hauling

5 14

Printing, Stationery

18 12

Jan. 16, 1956 Ck 35420 - [redacted]

149 22

1 Thelco Vacuum Oven

Jan. 1956 Ck 27750 - [redacted]

12 50

Scientific - 1 Indicator spray bottle

4 95

Supplies

Feb. 18, 1956 Ck 28830 - [redacted]

15 12

24 Sublimation Tubes

Extraction Assembly

29 24

Sublimation Apparatus #377550

125 00

Feb. 23, 1956 Ck 31910 - [redacted]

18 75

1 Cold trap of Pyrex glass

Feb. 27, 1956 Ck 33090 - [redacted]

13 96

2 Heating tapes

March 15, 1956 Ck 37060 - [redacted]

5 00

Molecular weight

Carbon - Hydrogen

7 20

March 15, 1956 Ck 43740 - [redacted]

6 90

Plate glass

March 15, 1956 Ck 37070 - [redacted]

18 00

1956 Journal of Pharmacology

& Experimental Therapeutics

445 17

Total Expenditures

1 704 17

Overhead Allowance - 10%

170 42

1 874 59

Balance available in Fund, March 31, 1956

358 18

I have examined and approved the submitted expenditures.

Sidney Gottlieb
SIDNEY GOTTLIEB

Chief
TSS/Chemical Division

Date: APR 9 1956

MEMORANDUM OF AGREEMENT

22-87
FILE SUB 22

The purpose of this memorandum of agreement is to set forth the mutual administrative responsibilities of the principal research investigator and the sponsor. Therefore, it is mutually agreed that:

A. The principal investigator shall submit to the sponsor, at six month intervals, an informal statement of expenditures of monies advanced for research activities. It is requested that the statement be submitted in essentially the following form:

Personal Compensation
(Salaries, Subject Fees)
Equipment
Supplies and Services
Contingencies
Overhead

B. It is understood that any travel expenses incurred in the furtherance of the research program will be accounted to the University in a manner consistent with its established practices and policies.

C. The principal investigator shall submit to the sponsor semi-annual reports on the technical progress of the research covered by these funds.

D. Title to any permanent equipment shall be retained by the University in lieu of higher overhead rates.

Date: Feb 14, 1956

20-88

CP

AK

FILE 22

RECEIPT

I hereby acknowledge receipt of the following:

Treasurer's Check #T51699 drawn on the [redacted] payable to [redacted] in the amount of \$70.66. F B

Official Check #G 3951 drawn on [redacted] payable to [redacted] in the amount of \$1,766.66. E B

[redacted] A

Date: 8 Nov 55

12 October 1955

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MILERA Subproject 22, Invoice # 3
Allotment 6-2502-10-001

1. Invoice # 3 is attached covering the above subproject. Other invoices will follow later. Payment should be made as follows:

Two cashier's checks, payable to the [redacted], one check in the amount of \$1,766.66, drawn on [redacted], and the second check for \$70.66, drawn on [redacted].

2. Both checks should be forwarded to Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than 25 October 1955.

HENRY GOTTLIEB
Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:

- Orig & 2 - Addresses
- 1 - Comptroller
- 1 - TSS/FASB
- 2 - TSS/CD

I CERTIFY THAT FUNDS ARE AVAILABLE.

OBIGATION REFERENCE No. 585

CHARGE TO ALLOTMENT No. 6-2502-10-001

13 OCT 1955

AUTHORIZING OFFICER

CHECK # 15699 IN THE AMOUNT OF \$ 70.66 RECEIVED. 17-10-1955

TSS/CD: (11 October 1955)

CHECK # 3951 IN THE AMOUNT OF \$ 1,766.66 RECEIVED. 17-10-1955

SECRET

25-9a

26 September 1955

MEMORANDUM FOR: CONTROLLER

ATTENTION: Finance Division

SUBJECT: MILERA Subproject 22, Additional Authorization #2

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A and the extension of this authority in subsequent memoranda, Subproject 22 was previously approved. Under the same authority an additional sum of \$5,512.00 has been authorized to cover the subproject's expenses (thereby bringing to a total of \$5,512.00 funds obligated during FY 56) to be charged to Allotment 6-2502-10-001.

SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

APPROVED FOR
OBLIGATION OF FUNDS:

Research Director

Date:

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OC
- 1 - TSS/FASB
- 1 - TSS/SRB
- 2 - TSS/CD

TSS/CD (26 September 1955)

††

~~SECRET~~

INVOICE

For services

\$1,837.32

B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice #3 applying to Subproject 22 of MAULTRA, that performance is satisfactory, that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to Subproject 22 of MAULTRA which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

22-91

E2 IMPDET; CL BY 187475

DRAFT/

1 October 1955

MEMORANDUM FOR: THE RECORD

SUBJECT: MKULTRA Subproject 22

1. Subproject 22 is a continuation of Subproject 1, which had as its scope preliminary work on the isolation and characterization of the alkaloids of Impomea sidafolia Choisy (Rivea corymbosa) in order to determine their activities as agents affecting the central nervous system.

2. The results of the preliminary study are such that a full program of research on this material is desirable. However, further investigation is required to determine the best technique to be used in the purification of certain glycosides. Dr. [redacted] who conducted the preliminary work, has submitted the attached proposal to carry out this work as outlined by TSS/CD.

3. The [redacted], will serve as cutout for transfer of funds to the investigator. The estimated cost of the work according to the proposal is \$5,300.00 for one year. To this must be added four percent service charge for the [redacted] amounting to \$212.00. Therefore, the total cost of this investigation for one year will not exceed \$5,512.00.

4. In accordance with the Memorandum of Understanding with Dr. [redacted] the University shall retain title to any permanent equipment in lieu of higher overhead rates.

5. The [redacted] has made arrangements for the return of unexpended monies to the Agency upon completion of the program. This agreement is maintained in the records of the Fund.

6. Dr. [redacted] has agreed to comply with the attached Memorandum of Understanding. He has been granted a TOP SECRET Agency clearance and is fully capable of protecting the Government's interest in this project.

APPROVED:

[redacted] A
Research Director

[redacted] A
Chief, TSS/Chemical Division

Date: 10/4/55

Distribution:
Original Only

TSS/CD: [redacted] H
(26 September 1955)

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

E2 IMPDET; CL BY 187475

~~SECRET~~

22 93

26 September 1955

MEMORANDUM FOR: COMPTROLLER

ATTENTION: Finance Division

SUBJECT: NEUTRA Subproject 22, Additional Authorization
#1

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A and the extension of this authority in subsequent memoranda, Subproject 22 was previously approved. Under the same authority an additional sum of \$5,512.00 has been authorized to cover the subproject's expenses (thereby bringing to a total of \$5,512.00 funds obligated during FY 56) to be charged to Allotment 6-2502-10-001.

SIDNEY COTTLIER
Chief
TSS/Chemical Division

APPROVED FOR
OBLIGATION OF FUNDS:

Signed by [Signature] A

I CERTIFY THAT FUNDS ARE AVAILABLE
CHANGE TO ALLOTMENT No. 6-2502-10-001

Research Director

AUTHORIZING OFFICER

Date: 26 Sept 55

- Distributions:
- Orig & 2 - Addressee
 - 1 - TSS/OC
 - 1 - TSS/FASB
 - 1 - TSS/SRB
 - 2 - TSS/CD

TSS/CD (26 September 1955)

+

~~SECRET~~

~~SECRET~~

22-92

26 September 1955

MEMORANDUM FOR: COMPTROLLER

ATTENTION: Finance Division

SUBJECT: MULLERA Subproject 22, Additional Authorization
#1

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A and the extension of this authority in subsequent memoranda, Subproject 22 was previously approved. Under the same authority an additional sum of \$5,512.00 has been authorized to cover the subproject's expenses (thereby bringing to a total of \$5,512.00 funds obligated during FY 56) to be charged to Allotment 6-2502-10-001.

SIDNEY GOTTLIB
Chief
TSS/Chemical Division

APPROVED FOR
OBLIGATION OF FUNDS:

Original signed by
 A

I CERTIFY THAT FUNDS ARE AVAILABLE
OBLIGATION REFERENCE NO. 585
CHARGE TO ALLOTMENT NO. 6-2502-10-001

Research Director

AUTHORIZING OFFICER

Date: 9/26/55

Distribution:

Orig & 2 - Addressee

1 - TSS/OC

1 - TSS/FASB

1 - TSS/SRB

2 - TSS/CD

TSS/CD (26 September 1955)

+

~~SECRET~~

Downgraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977

IMPDET; CL BY 187475

32-94
September 10, 1955

To. - [REDACTED]

Attn. - Dr. [REDACTED]

Sienev Gottlieb

My letter to the [REDACTED] on May 2 constituted a brief progress report of my work on the project dealing with the drug "Piule". Since that time, arrangements have been made with Dr. [REDACTED] head of the Department of [REDACTED] at the [REDACTED] in [REDACTED] to carry out physiological tests on the purified glycoside obtained from "Piule". These tests will take a considerable portion of the glycoside obtained from the "Piule" on hand, however, Dr. [REDACTED] of your organization has indicated that he will make more of the drug available to me. When I obtain this new supply of the drug I plan to extract and purify a sufficiently large quantity of the glycoside so that when it is subjected to splitting, the aglycone which is obtained will constitute a fraction large enough to be tested in detail. To date the aglycone has been obtained in minute traces as a dark tar. The only tests which it has been possible to carry out on this material are those using alkaloidal reagents. These tests have indicated the presence of alkaloids. The glycoside gives indecisive results when tested for nitrogen using the sodium fusion technique. Quantitative micro Kjeldahl determinations indicate 0.70% nitrogen. Assuming the presence of one nitrogen in the molecule and assuming that the glycoside is pure, this percentage of nitrogen would indicate a molecular weight of 2×10^5 . Due to the insolubility of the glycoside in the solvents usually employed in the Rast method for molecular weight determinations, the molecular weight of the glycoside has not been determined.

The glycoside has been fractionally extracted using various polar solvents. The fractions obtained from these extractions all have essentially the same ultraviolet spectra. This would indicate a fair degree of purity. The melting point is not sharp. As is characteristic of amorphous compounds it softens over a wide range; melting between 120 and 130°C.

Further attempts will be made to fractionate this glycoside fraction by countercurrent extraction and also by altering the chromatographic techniques employed to date.

Microenzymatic methods will be employed to determine if the glycosidic linkage is alpha or beta.

Downgraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977

Downgraded to CONFIDENTIAL
by authority of: 187475
date: June 1977
IMPDET; CL BY 187475

[REDACTED]

B

Additional paper chromatographic tests will be employed to determine whether or not the glyco portion of the glycoside is glucose or whether some other sugar is present.

Attempts will be made to isolate sufficiently large quantities of the aglycone in crystalline form so that in addition to the chemical tests, physiological tests may be carried out on it and the results compared with those obtained on the glycoside.

Qualitative and quantitative functional group determinations will be made on the aglycone if it can be obtained in pure form.

In order that this project may be carried on more expeditiously I plan to hire one graduate student who can assist me in the work.

Proposed budget for one year

Equipment (including Extracto-matic, giant blender, fraction collector, etc.)	1000.00 800.00	H
Special chemicals	150.00	
Analyses and tests	300.00	
Travel expense	250.00	
Laboratory help and miscellaneous	200.00	
One graduate assistant for one year	1800.00	
Stipend for director	1600.00	
Total	5100.00 5300.00	H

Respectfully submitted,

[REDACTED]

C

Associate Professor

Downgraded to CONFIDENTIAL
by authority of: 187475
date: June 1977
IMPDET; CL BY 187475

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

22-95

12 September 1955

E2 IMPDET; CL BY 187475

MEMORANDUM FOR THE RECORD

SUBJECT: Contact - Dr. [REDACTED]

C

1. On this day the writer spent two hours with Dr. [REDACTED] discussing various aspects of his project on the isolation of the active principle of Rivea corymbosa.

2. The two bags of additional seed were given to Dr. [REDACTED]. He indicated that they would hold him for awhile, but that he could use at least five pounds more in the coming year.

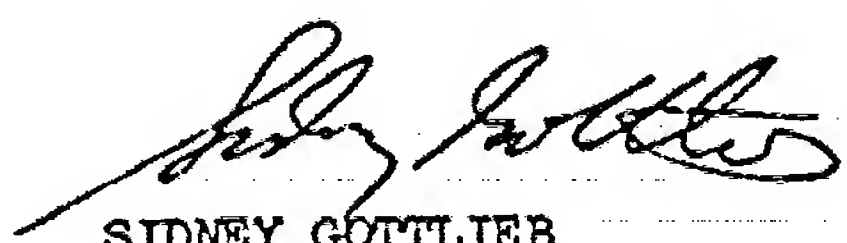
3. The question of accounting for the grant was briefly discussed and Dr. [REDACTED] passed along to us examples of the three-month accountings which he routinely gets from the university. They are attached to the proposal discussed below.

4. Dr. [REDACTED] submitted his proposal for the next year, which was discussed in detail with him. The minor addition was suggested to be added to the category of "equipment". He has about \$470 left in his present grant, as of today. He indicated that, if November 1, 1955 is the starting date for the new grant, and if he receives the first portion of the money promptly by that date, things will go smoothly.

5. Dr. [REDACTED] raised some problems that he has in connection with having a graduate student. He wondered if there were security considerations in his having such an assistant. The writer explained that there were none; that he should hire a person for the job strictly on the basis of his qualifications and his personal acceptability to [REDACTED].

6. Dr. [REDACTED] also discussed the possibility of another move in several years from now, and wondered what our attitude would be about this. He was advised not to worry about this until it became more imminent.

7. This being the writer's first contact with Dr. [REDACTED] his impression of Dr. [REDACTED] was very favorable, particularly along the lines of sincerity and integrity.



SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

H
SG: [REDACTED]

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

E2 IMPDET; CL BY 187475

22-96
BAC

UNIVERSITY, [REDACTED]
[REDACTED] - DR. [REDACTED]
MARCH 1, 1954 THROUGH APRIL 30, 1955

RECEIPTS:

March, 1954	Receipt A7231	1 925 00	
May "	" A8918	1 925 00	
Sept. "	" A11593	1 925 00	
Dec. 13, "	" A14396	1 925 00	7 700 00

EXPENDITURES:

Salaries-

March 1954	JV498 - Dr. [REDACTED]	400 00	
April "	Ck 10578F - Graduate assistant	16 20	advertising for
May "	JV634 - Dr. [REDACTED]	400 00	
July "	JV752 - [REDACTED]	27 00	
Aug. "	JV914 - " " "	25 00	
Sept. "	JV1069 - Dr. [REDACTED]	400 00	
" "	" [REDACTED]	163 64	
Oct. "	JV1103 " "	163 64	
Nov. "	JV1165 " "	163 64	
Dec. "	JV1266 " "	163 64	
" "	" Dr. [REDACTED]	400 00	
Jan. 1955	[REDACTED]	163 64	
Feb. "	" "	163 64	2 640 04

Travel-

June 1954	Ck 11165 - Dr. [REDACTED]		
To meeting on alkaloid research			230 00

Payroll Expense-

May 1954	JV692 Workmen's Comp. insurance	74	
Aug. "	JV955 " " "	12	
Nov. "	JV1206 " " "	69	
Feb. 1955	" " "	69	
"	Social security taxes	9 82	12 06

Apparatus, Supplies and Expense-

March 1954	Ck 9893F - Advertising in Chemical & Engineering News	11 70	✓
April 1954	Ck 10059N - Triunion cups & other fittings	86 03	✓
	Ck 10370F - Laboratory equipment	86 46	✓
	Extraction assemblies & mantles	226 02	✓
	Ck 10438F -	3 21	
May 1954	Ck 10605C - Heating mantel and support	14 75	✓
	Ck 10727C - Chemicals	27 30	✓
	Ck 10650C - Internal timer	8 96	✓
June 1954	Ck 11457C - 3 cartons Sorex	10 00	✓
June 1954	Ck 10380H - Sulolite exchanges & absorbent	27 89	✓
July 1954	Ck 11912N - Petty cash-		✓

chem. 42.26 + 35.71 = 18.55 (total)

UNIVERSITY

- DR.

MARCH 1, 1954 THROUGH APRIL 30, 1955

B+C

Ck 12043N -			
Deeminac model & filter	✓	5 74	✓
Ck 12271H			
Laboratory Jack	✓	33 64	✓
JV803 -			
Funnels, rubber sheeting, blade			
assembly, etc.	✓	295 69	✓
Ck 12189N - Autemp heater and blades	✓	23 70	✓
Aug. 1954 - Ck 11331F -			
Funnels, filter and tube	✓	15 14	✓
Ck 11353F -			
Dioxene Bath 2347	✓	3 70	✓
JV864 -			
Vol. 1 The Alkaloids	✓	13 21	
Ck 11609F -			
Chemistry	✓	5 53	
Ck 11353F -			
Tubes, reducers & mantle	✓	111 32	✓
Sept. 1954 - Ck 11915F -			
Heating mantle and support	✓	22 50	✓
Ck. 12125C -			
Phenanthrene	✓	8 75	
Ck. 12126C -			
The Doors to Perception	✓	1 33	
Ck. 12127C -			
Chemical Constitution	✓	6 01	
Dec. 1954 - Ck 12095C -			
Emulsion, Invertase Analy.	✓	9 99	✓
Jan. 1955 - Ck 11851N -			
	✓	6 16	✓
Feb. 1955 - Ck 12279N -			
	✓	18	✓

3483

967 66

EQUIPMENT:

Jan. 20, 1955 Check 3443 - 12106C -
 - 1 Model DK,
 Spectrophotometer, Beckman #9500
 Less borne by Chemistry Dept. (3)

7 475 00
 5 150 00

12 325 00

Total Expenditures

6 174 76

Overhead Allowance - 10%

627 47

6 792 23

Balance Available in Fund at April 30, 1955

907 77

3/19/54 52.40 - adapters
 8/4/54 6.49 - connecting tube
 micro filter holder

unrecorded remaining

818.23
 89.54
 82.53
 2.01

22-97

1 August 1955

MEMORANDUM FOR: THE RECORD

SUBJECT : Addendum to Subproject 22

1. The purpose of this addendum is to set forth the mutual administrative responsibilities of the contractor and sponsor.

2. The above subproject represents the research program of Dr. [redacted] located at [redacted] University, financed by MKULTRA, covering the period 28 January 1954 through 23 January 1956. B + C

3. The [redacted] has requested the University to submit to them a summary accounting of monies received from the Fund. Also, they requested the return of any unexpended funds received under a grant from the Fund. B

4. Title to any permanent equipment purchased by funds granted the University shall be retained by the University in lieu of higher overhead rates.

5. It was mutually agreed that documentation and accounting for travel expenses which are reimbursable by the University shall conform with the accepted practices of that Institution.

6. It was agreed that technical reports reflecting the progress of the research program shall be submitted at mutually acceptable intervals.



SIDNEY GOTTLIEB
Chief
TSS/Chemical Division

APPROVED:



Chief, Technical Services Staff A

Distribution:
Orig & 1 - TSS/CD

 H



22-98


28 January 1955

MEMORANDUM FOR: THE RECORD

SUBJECT : Extension of Time for
Project MKULTRA, Subproject 22

Since Subproject 22 has expired and there are still
funds remaining in the project, Subproject 22 is hereby
extended for one year from date of expiration.

APPROVED:


for Chief, TSS/Chemical Division

A

Original Only

MEMORANDUM RECEIPT

22 99
AUG 11 1954

TO:

DATE

FROM:

Invoice #2

SUBJECT:

Subproject 22

I hereby acknowledge receipt of the following:

UNT. CHECK #¹³¹²⁰⁷~~131208~~ IN THE AMOUNT OF \$^{205.33}~~133.33~~ RECEIVED. AUG 12 1954

H

Please return _____ signed copy(ies) of this receipt

SIGNATURE OF RECIPIENT

To
FORM NO. 36-66
MAR 1949

DATE RECEIVED

MEMORANDUM RECEIPT

22 99
AUG 25 1954

TO:

DATE

FROM:

SUBJECT:

I hereby acknowledge receipt of the following:

CHECK #¹³¹²⁰⁷~~131208~~ IN THE AMOUNT OF \$^{205.33}~~133.33~~ ✓ RECEIVED,

C

Please return _____ signed copy(ies) of this receipt

SIGNATURE OF RECIPIENT

To
FORM NO. 36-66
MAR 1949

DATE RECEIVED

27 Aug 54

22-101

4 August 1954

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: Subproject 22, Project MKULTRA
Invoice No. 2, Allotment 4-2502-10-001

1. Invoice No. 2 for Subproject 22 of Project MKULTRA is attached. This invoice is the final one to be submitted under Subproject 22 and when paid, constitutes complete payment of this project. It is requested that payment be made by two cashier's checks for \$205.33 and \$5,133.33 made out to the ~~██~~. The checks should be sent to Chief, TSS/CD through TSS/Budget Officer by 16 August 1954. B

2. The two invoices covering this Subproject aggregate \$5008.00 and represent the total expenditure to be made under this Subproject. It is requested, therefore, that the files on this Subproject be closed.

SIDNEY GOTTLIEB
Chief
Chemical Division, TSS

Attachment:
Invoice No. 2
Certifications

Distribution:
Addressee - Orig. & 2 w/a
TSS/PASA - 1
Comptroller - 1
TSS/CD - 2

I CERTIFY THAT FUNDS ARE AVAILABLE:
OBLIGATION REFERENCE No. 001108
CHARGE TO ALLOTMENT No. 4-2502-10-001
AUG 6 ENT'D
AUTHORIZING OFFICER

~~██████████~~
H

U.M.T. CHECK # ¹³¹²⁰⁷ ~~21208~~ IN THE AMOUNT OF \$^{205.33} ~~5,133.08~~
RECEIVED. AUG 12 1954

~~██~~ A

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 2 applying to Subproject 22 of Project MKULTRA, that technical performance by the ~~████████████████████~~ was satisfactory, that the work was accomplished in accordance with the mutual agreement reached with the ~~████████████████████~~, that this bill is just and correct and that payment has not yet been made. B

Date: _____

SIDNEY GOTTLIEB
Chief, TSS/CD

(2) It is hereby certified that this invoice applies to Subproject 22 under Project MKULTRA which was duly approved and that the project has been carried out in accordance with the DD/P memorandum to DCI dated 3 April 1953 and the DCI memorandum to DD/A dated 13 April 1953.

Date: _____

AUG 6 1954

Initial signed by

~~████████████████████~~ A

CERTIFICATE

March 2, 1954

This is to certify that I have today received
Cashier's check No. M138335 of the [REDACTED]
[REDACTED] in the amount of \$102.67.

[REDACTED] C
M.D.

March 2, 1954

This is to certify that I have today received
Cashier's check No. M138334 of the [REDACTED]
[REDACTED], in the amount of \$2,566.67.

[REDACTED] E
C
M.D.

MEMORANDUM RECEIPT

FEB 18 ENT'D
DATE

TO:

FROM:

SUBJECT:

I hereby acknowledge receipt of the following:

CHECK# ⁴¹³⁸³³⁴ IN THE AMOUNT OF \$ ^{2566.67}
RECEIVED.

CHECK# ⁴¹³⁸³³⁵ IN THE AMOUNT OF \$ ^{102.67}
RECEIVED.

Please return _____ signed copy(ies) of this receipt

 H
SIGNATURE OF RECIPIENT

To _____
FORM NO. 36-66
MAR 1949

18 Feb 54
DATE RECEIVED

INVOICE

28 January 1954

For Services \$2669.34

~~XXXXXXXXXX~~ C

~~SECRET~~

CERTIFICATIONS

(1) "It is hereby certified that this is Invoice No. 1 applying to subproject 22 of Project MKULTRA, that technical performance by [redacted] has been satisfactory, that the work is being accomplished in accordance with the mutual agreement reached with [redacted], that this bill is just and correct and that payment thereof has not yet been made. C

Date: _____

SIDNEY GOTTLIEB
Chief, CD/TSS"

(2) "It is hereby certified that this invoice applies to subproject 22 under Project MKULTRA which was duly approved and that the project is being carried out in accordance with the DD/P memorandum to DCI dated 3 April 1953, the DCI memorandum to DD/A dated 13 April 1953, and the DCI memorandum to the DD/A dated 19 June 1953.

Date: _____

FEB 4 1954

Signed and by
[redacted]

Research Director" A

(3) "It is hereby certified that the scope of the program of subproject 22 of Project MKULTRA has been approved.

Date: _____

FEB 4 1954

[redacted]
Exec. Sec'y., Res. Bd." A

I CERTIFY THAT FUNDS ARE AVAILABLE:

OBIGATION REFERENCE NO. _____

02647321

CHARGE TO ALLOTMENT NO. _____

FEB 5 ENT'D

AUTHORIZING OFFICER

~~SECRET~~

~~SECRET~~

28 January 1954

22-103

MEMORANDUM FOR: COMPTROLLER
ATTENTION: Finance Division
SUBJECT: Project MKULTRA, Subproject 22

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A, and the further authority granted in the memorandum dated 17 April 1953 from the DD/A to the Comptroller on the subject, "DD/P-TSS Project MKULTRA," and the memorandum dated 19 June 1953, from the DCI to the DD/A extending the authority to cover Fiscal Year 1954, Subproject 22 has been approved, and \$8,008.00 of the over-all Project MKULTRA funds have been obligated to cover the subproject's expenses.

SIDNEY GOTTLIEB
Chief
Chemical Division, TSS

PROGRAM APPROVED
AND RECOMMENDED:

APPROVED FOR OBLIGATION
OF FUNDS:

Exec. Sec'y., Res. Bd.

Research Director

Date:

Date:

Distribution:

Addressee - Orig. & 2
Exec. Sec'y., Res. Bd. - 1
TSS/Budget - 1
TSS/Registry - 1
TSS/CD - 2

~~SECRET~~

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977

22-104
DRAFT/~~CONFIDENTIAL~~ H
28 January 1954

E2 IMPDET; CL BY 187475

MEMORANDUM FOR THE RECORD

SUBJECT: Project MKULTRA, Subproject 22

1. Subproject 22 is a continuation of Subproject 1 which had as its scope preliminary work on the isolation and characterization of the alkaloids of Impoonea sidafolia Choisy (Rivea corymbosa) in order to determine their activities as agents affecting the central nervous system.

2. The results of the preliminary study are such that a full program of research on this material is desirable. Dr. ~~CONFIDENTIAL~~ C who conducted the preliminary work, has submitted the attached proposal to carry out this work as outlined by CD/TSS.

3. The ~~CONFIDENTIAL~~, will serve B as cut-out for transfer of funds to the investigator. The estimated cost of the work according to the proposal is \$7,700.00 for one year. To this must be added 4% service charge for the ~~CONFIDENTIAL~~ amounting to \$308.00. The total cost of this investigation for a period of one year, therefore, will not exceed \$8,008.00.

4. Dr. ~~CONFIDENTIAL~~ C has been granted a Top Secret Agency clearance and is fully capable of protecting the Government's interest in this project.

~~CONFIDENTIAL~~ A
Chemical Division, TSS

APPROVED:

~~CONFIDENTIAL~~ A
Chief, Chemical Division, TSS

PROGRAM APPROVED
AND RECOMMENDED:

APPROVED FOR OBLIGATION
OF FUNDS:

~~CONFIDENTIAL~~ A
Exec. Sec'y., Res. Ed.

Date: Jan 28 1954

~~CONFIDENTIAL~~ A
Research Director

Date: 28 Jan 1954

Attachment: Proposal

Downgraded to: ~~CONFIDENTIAL~~
by authority of: 187475
date: June 1977
E2 IMPDET; CL BY 187475

22-105

January 4, 1954.

B

Dear Sir:

I am aware of the interest your Foundation has in supporting research related to physiologically active compounds. Recently I became interested in determining what is the active component(s) of the drug "Piule". My work together with the meager technical literature available on the subject convinces me that financial support will be necessary before I will be able to continue the investigation. I am, therefore, submitting to you a summary of the work completed on the problem to date, together with an estimate of the funds that will be needed to purchase equipment and supplies and to employ help.

University officials are aware of this request. If you see fit to support this research, I plan to employ one or two graduate students who will work part time on the problem while working toward the M.S. or Ph.D. degree.

B

My work in the field of plant alkaloids dates back to 1948. Most of this work was carried out at the University of [redacted]. When I moved to [redacted] University in the fall of 1953, I found that no work in this field had been carried out here. As a result, very little of the necessary equipment is available. Departmental funds are available for some, but not all, of the necessary equipment and supplies. The funds requested for the first year of the investigation, therefore, include these.

Very truly yours,

[Redacted signature]

C

Associate Professor

WARNING NOTICE

SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

[REDACTED]

[REDACTED]

[REDACTED]

B

Summary of Work on "Piule"

The seed of a trailing vine which grows in Mexico and Central America has been used by natives of those regions since Ancient times as a narcotic. Although the plant has been classified by taxonomists of the Smithsonian Institute as Ipomoea sidaefolia Choisy, a plant of the Convolvulaceae family, its seeds, because of their physiological activity, have been considered as one of the "peyotes". The most common example of a "peyote" drug is the button from the cactus, Anhalonium lewinii.

Until the work reported here, the only work carried out to determine the active constituent(s) of these seeds was that by C. G. Santesson of the Medico-Surgical Institute in Stockholm and reported in the Archiv der Pharmozie 275, 532-537, (1937). His experiments, which were conducted on small quantities of seed, indicate that a water extract of the crushed seed contained a glyco-alkaloid which had narcotic effect on frogs, mice and rabbits before and after acidic hydrolysis. The presence of sugars was determined by means of the Fehlings test. The evidence for reporting alkaloids was precipitates with reagents such as phosphomolybdic and phosphotungstic acids.

In the present investigation, which was carried out during a five week period at the [REDACTED] B

[REDACTED] small quantities (15-60 g.) of the seed were used to

WARNING NOTICE

[REDACTED]

[REDACTED]

[REDACTED]

repeat the work of Santesson and determine the best means of extracting the active constituent(s). Finally a 100 g. sample of the seed, crushed to pass a 15 mesh sieve, was extracted in a sohlet with petroleum ether to remove oils. The de-oiled seed was macerated with distilled water and the mixture centrifuged to separate the marc. This marc apparently was devoid of alkaloid or glycosides extractable with various polar and non-polar organic solvents. The aqueous extract was freed from most protein material by the use of trichloroacetic acid. The deproteinated extract was neutralized by means of ion exchange resins. The effluent from the resin column was concentrated in vacuo resulting in the precipitation of more gummy material. The supernatant was clear, viscous, dark green and intensely bitter. It contained no free reducing sugars. Tests with alkaloidal reagents were inconclusive. Attempts to extract alkaloidal material from this solution using various solvents were unsuccessful. Emulsions interfered with the extraction in both neutral and basic solution. The aqueous solution was stirred with methanol, a procedure which removed most of the polysaccharides, which were present in large quantities, and decreased the viscosity of the aqueous solution. The resulting aqueous-alcoholic solution was concentrated to remove methanol. It gave positive tests with all common alkaloidal reagents and negative tests for reducing sugars.

WARNING NOTICE

[REDACTED]

[REDACTED]

[REDACTED]

B 3

A minute quantity of crystalline material formed in this aqueous solution after a day. This material has not been identified. The remainder of the solution was evaporated on a water bath, in a nitrogen atmosphere, without obtaining additional crystalline material. The residue was taken up in water and more polysaccharides precipitated with the addition of methanol. Repeating this procedure eventually removed all of the polysaccharides. From the supernatant, after removal of polysaccharides, no crystalline material was obtained. Tests on this solution indicated the presence of alkaloids and the absence of reducing sugars. This solution also was intensely bitter, a crude indication of the presence of the active principle(s) of "Piule". No test animals were available at the time for physiological tests of various fractions. This solution was hydrolyzed with 2N H₂SO₄. A voluminous amount of precipitate resulted. The clear supernatant yielded excellent tests for alkaloids and reducing sugars.

Paper chromatography was employed to confirm the presence of reducing sugars. The polysaccharides were hydrolyzed and the resulting solution, after neutralization, was subjected to paper chromatography. The results are incomplete; however, glucose, mannose and xylose appear to be the predominate monosaccharides present.

WARNING NOTICE

CONFIDENTIAL

[REDACTED]

4

At this point work was suspended due to my change of positions.

Proposal

Future plans call for the following.

1. The use of larger quantities of the seed.
(Originally only a small quantity was available, now there is a large quantity available.)
2. Considerable work on the use of ion exchange resins in order that this technique can be used on aqueous extracts of piule without the possibility of losing some of the active principles.
3. Work to be continued on the isolation of glycoalkaloid(s). There is some indication in this investigation that in addition to one or more glycoalkaloids there is also uncombined alkaloid.
4. Work to be continued on the identification of the sugars combined in glycoalkaloid moieties.
5. Test animals to be used to determine the presence of the active principle(s) in various fractions.
6. When the glycoalkaloid(s) or/and alkaloid(s) have been isolated work will be undertaken to determine their physiological activity on laboratory test animals, their physical and chemical properties including ultraviolet and infrared spectra.
7. If the alkaloid(s) cannot be identified as known alkaloid(s), work will be instituted to elucidate the structure.

It is estimated that this investigation will require from three to five years to complete.

WARNING NOTICE

SENSITIVE INTELLIGENCE

Funds Needed for One Year

Equipment (includes special equipment such as Beckman DU spectrophotometer, centrifuge, sohxlet extractor, paper chromatography equipment, Kofler hot stage and small mill for grinding seed.)\$2700

Materials (chemicals, solvents)..... 300

Travel and meetings 200

Analyses and tests 200

Salary (senior investigator)1600

Salary (graduate assistant, 11 mo.).....1800

Laboratory help..... 100

Miscellaneous 100

Overhead to [redacted] ... 10% 700

Total	\$ 7000 plus overhead
Overhead	700
Total	\$ 7,700.00

WARNING NOTICE

SENSITIVE INTELLIGENCE

SOURCES AND METHODS INVOLVED

22
22-106

August 20, 1954

Dr. [REDACTED]

C

Dear Dr. [REDACTED]

This is to inform you that my former District number has been changed to [REDACTED]. Please do not try to reach me at the old number. No collect calls will be accepted at this number.

Sincerely,

22-107

28 January 1954

MEMORANDUM FOR: CONTROLLER
ATTENTION: Finance Division
SUBJECT: Project MKULTRA, Subproject 22

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A, and the further authority granted in the memorandum dated 17 April 1953 from the DD/A to the Comptroller on the subject, "DD/P-TSS Project MKULTRA," and the memorandum dated 19 June 1953, from the DCI to the DD/A extending the authority to cover Fiscal Year 1954, Subproject 22 has been approved, and \$8,008.00 of the over-all Project MKULTRA funds have been obligated to cover the subproject's expenses.

SIDNEY COPTLIEB
Chief
Chemical Division, TSS

PROGRAM APPROVED
AND RECOMMENDED:

APPROVED FOR OBLIGATION
OF FUNDS:

12 ~~XXXXXXXXXX~~ *H*
Exec. Sec'y., Res. Di.
Jan 20 1954
Date: _____

Original signed *A*
~~XXXXXXXXXX~~
Research Director
Date: Jan 23 1954

Distribution:
Addressee - Orig. & 2
Exec. Sec'y., Res. Di. - 1
TSS/Budget - 1
AB/Registry - 1
CD - 2

I CERTIFY THAT FUNDS ARE AVAILABLE:
OBLIGATION NUMBER: 02442
CHARGE TO: 4-250210

...ORIZING OFFICER

Security Information

SO 2-1266
14 September 1953

MEMORANDUM FOR: Chief, CD/TSS

SUBJECT: [REDACTED] C

1. Reference is made to our memorandum dated 29 May 1953, requesting a covert security clearance to permit TSS to utilize the Subject's personal knowledge in connection with a highly sensitive research problem incident to Project MKULTRA. The Subject will have access to TOP SECRET Information.

2. In accordance with the provisions set forth in the Director's Memorandum of 14 February 1949, entitled "Security and Operational Clearances", a covert security clearance is granted for the covert use of the Subject as described in your request as set forth in Paragraph 1, above.

3. The Subject is not to represent himself as, nor is he to be represented as, an employee of CIA.

4. Your attention is called to the fact that a covert security clearance does not constitute complete compliance with the provisions of CIA Regulation [REDACTED]. Therefore, if you should desire at a later date to change the status or use of this individual, a request for clearance to cover any proposed change should be submitted to this office.

5. This clearance becomes invalid in the event the Subject's services are not utilized within 60 days of the date of this memorandum.

[REDACTED] A
Liaison & Security Officer
DD/P/TSS

/dlb (14 September 1953)

Distribution:

Addressee - Orig. (Scottlieb, [REDACTED]) A
L&SO - 2

Security Information

Authorizations	Covered	Amount	Notes	Balance
2) 4 Oct 55	1 year		6-2502-10-001	5,512.00
3) 5 Nov 56	1 yr		7-2502-10-001	6,188.00
4) 16 Aug 57	1 yr		8-2502-10-001	17,491.76
5) 24 Oct 58			9-2502-15-9d	10,261.68
7) 30 June 59	1 yr		9-2500-15-009	12,029.68
8				

Invoice #	Date	Amount	Balance
1	2/1/54	2,669.34	5,338.66
2	8/4/54	5,338.66	0
3	10/10/55	1,837.32	3,674.68
4	4/16/56	3,674.68	0
auth #3	5 Nov 56	6,188.00	6,188.00
5	13 Nov 56	2,062.66	4,125.34
6	4 June 57	4,125.34	0
4) 16 Aug 57		8-2502-10-001	17,491.76
7	14 Oct 57	17,491.76	0
8	37 Nov	10,261.68	0
6) auth #6	30 June 59		12,029.68
9	25 Aug 57	12,029.68	0
auth #9	2 Sept 61	16,026.40	
auth #11		16,026.40	

72, 2

B

22 November 1961

MEMORANDUM FOR: THE RECORD

SUBJECT : Schedule of Grant Payments MKULTRA 22

~~November 1961 to November 1962~~

B

Due Nov 1, 1961	\$3,852.00
Due Feb 1, 1961	3,852.00
Due May 1, 1961	3,853.00
Due Aug 1, 1961	<u>3,853.00</u>
TOTAL GRANT	\$15,410.00

7 October 1959

22.3

MEMORANDUM FOR: THE RECORD

SUBJECT : Schedule of Grant Payments MKULTRA 22

B

~~_____~~ November 1959 to October 1960.

Due	Nov 1, 1959	2891.75
Due	Feb 1, 1960	2891.75
Due	May 1, 1960	2891.75
Due	Aug 1, 1960	<u>2891.75</u>
TOTAL GRANT		11,567.00

Project MKULTI, Subproject 22

22.4

Date Initiated: 28 January 1954

Date Expires: Continuing

Funds-current year: \$11,567.00

Purpose: Isolation and investigation of the active principals of certain botanicals of interest.

Status: Final fractions are being studied on the Rivea corymbosa separation, considerable progress has been made on the separation of the active constituents of Amanita muscaria, and a start has been made on the separation of Rhynchosia phaseoloides

April 17, 1964

J.J.G.

To:

[Redacted]

A, B, C, G

From:

[Redacted] principal investigator

Re:

Final financial accounting for renewal of research grant entitled [Redacted]

Period of grant:

November 1, 1962 - July 15, 1963

For professional services rendered in research [Redacted]

\$4500.

Travel expenses [Redacted]

to [Redacted]

and

return by auto and plane

1115.

Living expenses at [Redacted]

1950.

Laboratory fee at [Redacted]

140.

Total

expenditures \$7705.

Total funds from grant

7705.

Balance

-0-

This is a correct accounting of funds received by me as grantee from [Redacted] as grantor..

I have examined and approved the submitted expenditures.

[Redacted signature area]

Chief

TSD/

#22
22.8

OFFICE OF RESEARCH ADMINISTRATION

May 1, 1963

[Redacted]

Director,

[Redacted]

Incorporated

B. C

Dear

[Redacted]

Your check for \$2,575.00, representing the third quarterly payment for [Redacted] research work, was received today.

Thank you for taking care of this matter for us.

Very truly yours,

[Redacted]

Assistant Research
Administrator

[Redacted]

J. J. P.

A

22

11

\$7,705.00

[REDACTED]

22 April 1963

22. 0/10
A, B

A

Apr. 14, 1962

Dear [redacted]

Attached are two copies of accounting on the grant funds at [redacted]. I've checked this and all appears to be in order. If there are any questions just let me know.

Cordially
[redacted]

BUSINESS OFFICE

Report of Expenditures
November 11, 1961 to October 31, 1962

22. ~~20~~

A, B, C,

Grantor: [redacted]
Grantee: [redacted], Principal Investigator
Fund: 8-0009-76

[redacted]

Nov. 14, 1962

Income:

[redacted]

\$7,705.00

Expenditures:

Salaries and Wages	\$1,905.00
Travel	1,021.65
Equipment	2,252.99
Supplies	1,206.34
Other Expenses:	
Telegraph service	9.27
Telephone	169.06
Miscellaneous	87.06
	265.39
Overhead @ .1376 of direct costs	<u>1,053.63</u>

7,705.00

Balance

-0-

I certify that the above statement of account is correct to the best of my knowledge.

[redacted signature]

Business Manager

I have examined and approved the submitted expenditures.

[redacted signature]

Chief
TSD/Biological Branch

J.J.H.

6 August 1962

A, B, C

MEMORANDUM FOR THE RECORD

SUBJECT

: Extension of Grant for
[REDACTED]

Authorization was given this date to [REDACTED]

[REDACTED] extending [REDACTED]

[REDACTED] grant time until 1 August 1963.
[REDACTED]

[REDACTED]
Chief
TSD/Biological Research

26 March 1962

22.13
A, B, C

MEMORANDUM FOR THE RECORD

SUBJECT : Support of [REDACTED]
Research on [REDACTED] at [REDACTED]

1. This date discussed in detail the status of our research on the physiologically active principles of the mushroom [REDACTED] with [REDACTED] the principal investigator on this project, has made outstanding progress in his laboratories in [REDACTED]. The research has progressed to the point where it is important to engage in more detailed phases.

2. In discussing the projected research, [REDACTED] said that he was unable to engage in certain critical phases due to lack of contact with certain types of apparatus. He was of the opinion that it was most important to bring into the research picture an outstanding research worker who was knowledgeable in the field of drugs natural products.

3. Following consultation with [REDACTED] discussions were held between [REDACTED] and myself. It was the consensus that this work could best be undertaken in the laboratories of [REDACTED]. [REDACTED] was in complete agreement with this since it would permit him to devote full time to his research and, at the same time, obtain much needed information on [REDACTED] researches first hand.

4. [REDACTED] pointed out, however, that he would be unable to carry out such a program without additional support. He stated that he had been in correspondence with [REDACTED] and had received several cordial invitations to work in [REDACTED] laboratories. [REDACTED] pointed out that his expenses would be in excess of \$10,000, owing to the fact that he would have his family to transport and take care of. He was advised that the grant could not undertake support to this extent, but that it would be possible to use about $\frac{1}{2}$ of the existing grant to reimburse him for his professional services, transportation, and a portion of his living expenses while in residence at [REDACTED]. He was informed that he, personally, would have to make his own arrangements about the additional funds required. [REDACTED] stated that this was quite agreeable to him and that he would take the necessary steps.

2213
10

5. Arrangements were made with [redacted] whereby $\frac{1}{2}$ of the grant would be withheld from [redacted] and given directly in support of [redacted] researches at [redacted]. This was concurred in by Chief, TSD, [redacted] and [redacted]

[redacted]
Chief
TSD/Biological Research

File # 22

14
22, 18

BUSINESS OFFICE

Report of Expenditures
November 1, 1960 to November 10, 1961

B, C

Grantor: [redacted]
Grantee: [redacted] Principal Investigator
Fund: 6795-76

INV 10

Income:

[redacted] \$9,300.00

Expenditures:

Salaries & Wages (Incl. Fellowships)	\$3,850.00
Travel	1,107.10
Equipment	1,150.65
Supplies	1,684.99
Publication and preparation of thesis	148.10
Other expenses:	
[redacted]	8.01
Telephone	130.25
Miscellaneous	9.85
	146.11
Overhead @ 15% direct costs	1,213.05

Total Expenditures: 9,300.00

Balance

-0-

I certify that the above statement of account is correct to the best of my knowledge.

[redacted]
Business Manager

11/17/61

22. 1.5
B, E,
November 8, 1961

[REDACTED]

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check No. [REDACTED] drawn on the [REDACTED] the [REDACTED], dated November 2, 1961, for \$15,410.00.

Check No. [REDACTED] drawn on the [REDACTED] the [REDACTED], dated November 2, 1961, for \$616.40.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

12 October 1961

22, 17

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSD/Budget Officer

A, E, B

SUBJECT : MCOLTRA, Subproject 22 Invoice #11
Allotment No. [REDACTED]

1. Invoice No. 11 in the amount of \$16,026.40 covering the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$15,410.00, drawn on a [REDACTED]

Cashier's check in the amount of \$616.40, drawn on a [REDACTED]

Both checks should be made payable to [REDACTED]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than 3 November 1961.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[REDACTED]
Chief
TSD/Research Branch

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee

CHECK # [REDACTED] IN THE AMOUNT OF \$ 15,410.00
RECEIVED.

11/3/61 [REDACTED]

CHECK # [REDACTED] IN THE AMOUNT OF \$ 616.40
RECEIVED.

11/3/61 [REDACTED]

[REDACTED]

12 October 1961

22, 18

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

A, E, B

VIA : TSD/Budget Officer

SUBJECT : KULTRA, Subproject 22 Invoice #11
Allotment No. [REDACTED]

1. Invoice No. 11 in the amount of \$16,026.40 covering the above subproject is attached. Payment should be made as follows:

Cashier's check in the amount of \$15,410.00, drawn on a [REDACTED]

Cashier's check in the amount of \$616.40, drawn on a [REDACTED]

Both checks should be made payable to [REDACTED]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than 3 November 1961.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[REDACTED]
Chief
TSD/Research Branch

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee

- 1 - TSD/PASS
- 2 - TSD/RB

I CERTIFY THAT FUNDS ARE AVAILABLE. 18 OCT 1961
OBLIGATION REFERENCE NO: 632
CHARGE TO ALLOTMENT NO. [REDACTED]

AUTHORIZING OFFICER

20
221
B, U

[REDACTED]

INVOICE

\$16,026.40

For Services

[REDACTED]

B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice 11 applying to Sub-project No. 22 of MKULTRA, that performance is satisfactory, that services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSD/RB, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSD/Research Branch

Date: _____

(2) It is hereby certified that this invoice applies to Subproject 22 of MKULTRA which was duly approved, and that the project is being carried out in accordance with the memorandum of 13 April 1953 from the DCI to the [REDACTED] and the extension of this authority in subsequent memoranda.

B

Research Director

Date: _____

[REDACTED]

22-22-88

27 September 1961

A, B

MEMORANDUM FOR: COMPTROLLER
ATTENTION : Finance Division
SUBJECT : Project MKULTRA, Subproject #22
Additional Authorization #9

Under the authority granted in the Memorandum dated
 13 April 1953 from the DCI to the [redacted] and the extension of
 this authority in subsequent memoranda, Subproject 22 has
 been approved, and \$16,026.40 of the over-all project MKULTRA
 funds has been obligated to cover the subproject's expenses and
 should be charged to Allotment 2125-1390-3902.

A

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted]
 Chief,
 TSD/Research Branch

A

[redacted]

 Research Director

11 OCT 11 1961

Date: _____

I CERTIFY THAT FUNDS ARE AVAILABLE.
 OBLIGATION REFERENCE NO. 639
 CHARGE TO ALLOTMENT NO. [redacted]

AUTHORIZING OFFICER

Distribution:
 Orig & 2 Addressee
 1 - TSD/OC
 ✓ - TSD/FASS
 2 - TSD/RB

A

[redacted] (27 Sept. 61)

[redacted]

27 September 1961

MEMORANDUM FOR: THE RECORD

SUBJECT : Project MKULTRA, Subproject #22

1. The purpose of this Subproject is to provide funds to continue the researches of Prof. [REDACTED] on the isolation of compounds from natural products which have psychogenic properties. Prof. [REDACTED] is concentrating his studies on isolation and identification of active materials in the fungus Amanita muscaria. Studies will be extended to active principles in Rhynchospira phaseoloides.

2. Progress in the studies of Amanita has been significant to date. It is believed that the chemical entity primarily responsible for the hallucinogenic effects of Amanita muscaria has been isolated. Because of the extremely small amount in the fungus, and due to the lack of sufficient quantities of plant material the amount isolated has been insufficient for complete structure elucidation. Effort during the coming year will be directed to obtaining adequate supplies of fresh material and the carrying out of various extraction and concentration procedures. Chemical and biological techniques will be utilized to identify and characterize the active principles which are of interest to TSD.

22-23
~~22-23~~

B

3. The [redacted] will serve as cutout for transfer of funds to the investigator. The estimated cost as outlined in the budget proposal is \$15,410.00. To this must be added the 4% service charge to the cutout, making the total cost for one (1) year not in excess of \$16,026.40. Charges should be made against allotment 2125-1390-3902.

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the [redacted] in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the [redacted] shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project MKULTRA and has agreed to comply with the terms of the Memorandum of Agreement.

C

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted]

TSD/Research Branch

A

[redacted]
Research Director

A

Date: _____

Attached: Budget

Distribution: Orig. only

[redacted]

[redacted]

28-24
~~28-24~~

PROPOSAL

TO



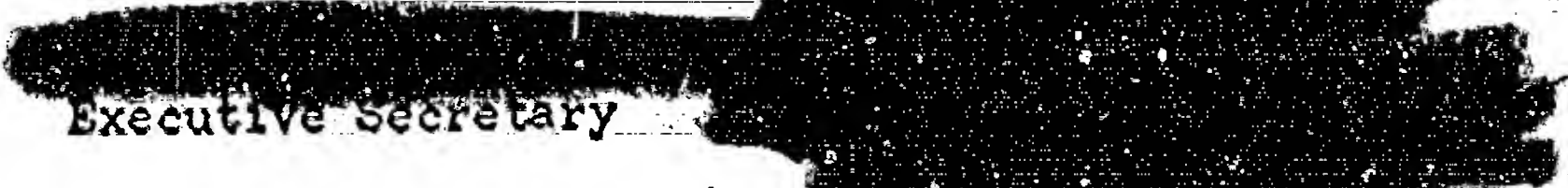
B

RENEWAL OF A RESEARCH GRANT

Investigation of the Physiologically
Active Principles of Amanita Muscaria
and Other Plants of Potential
Medicinal Value

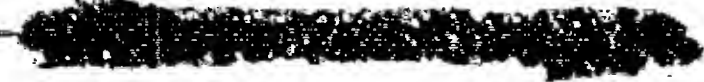
Grant date: November 1, 1961 - October 31, 1962

Principal Investigator



Executive Secretary

President



C

C

C

J. J. - 26

16 December 1960

[REDACTED]

A

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check [REDACTED] drawn on the [REDACTED] Company of [REDACTED], dated 15 December 1960, for \$8,634.57.

E

Check [REDACTED] drawn on the [REDACTED] of [REDACTED], dated 15 December 1960, for \$345.38.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

29 November 1960

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSD/Budget Officer

SUBJECT : MKULTRA, Subproject 22, Invoice #10
Allotment 1125-1009-1902

1. Invoice No. 10 in the amount of \$9,645.38 covering the above subproject is attached. However, due to refunds of \$665.43 from this project (as per attachment) payment should be made as follows:

Cashier's check in the amount of \$8,634.57, drawn on a [redacted] bank

Cashier's check in the amount of \$345.38, drawn on a [redacted] bank.

3979.95

Both checks should be made payable to [redacted]

2. The checks should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than Wednesday, 7 December 1960.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[redacted]
Chief
TSD/Research Branch

Attachment:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - TSD/FASS

2 DEC 1960
I CERTIFY THAT THE [redacted]
ORIGINATION OF THIS [redacted] 981
CHARGE TO ACCOUNT NO. 1125-1390-3912

AUTHORIZING OFFICER

CHECK RECEIVED [redacted] 16 DEC 1960

CHECK RECEIVED [redacted] IN THE AMOUNT OF \$8,634.57

C

C

INVOICE

For Services

22-29
\$ 8,979.95
~~\$9,672.00~~

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 10 applying to Subproject 22 of MCULTRA, that performance is satisfactory, that services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is filed in TSD/RB, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSD/Research Branch

Date: _____

(2) It is hereby certified that this invoice applies to Subproject 22 under MCULTRA which was duly approved and that the project is being carried out in accordance with the memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date: _____

22-29

(3) It is hereby certified that Under subproject 22 at the close of FY59 a balance of \$665.43 representing unused funds remained in subproject 22. Additional funds (FY 1125-1009-1902) have been approved for continuing subproject 22. Therefore, it is requested that \$665.43 of Invoice No. 10 be credited subproject 22 as a return of unused funds (FY 9-2502-75-902), MOR 2707.

Chief, TSD/Research Branch

Date: _____

Research Director

Date: _____

~~SECRET~~
22-31

15 November 1960

MEMORANDUM FOR: COMPTROLLER

ATTENTION : Finance Division

SUBJECT : Project MKULTRA, Subproject #22
Additional Authorization #8

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$9,672.00 of the over-all project MKULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 1125-1009-1902.

~~SECRET~~
Chief
TSD/Research Branch

A
981

APPROVED FOR OBLIGATION
OF FUNDS:

~~SECRET~~

A

Research Director

Date: _____

Distribution:

Orig. & 2 - Addressee

1 - TSD/OC

✓ 1 - TSD/FASS

2 - TSD/RB

TSD/ ~~SECRET~~ (15 Nov. '60)

A
~~SECRET~~

72-32

15 November 1960

MEMORANDUM FOR: THE RECORD

SUBJECT : Project MKULTRA, Subproject #22

1. The purpose of this Subproject is to provide funds to continue the research of Prof. [REDACTED] on the isolation of compounds having psychogenic and related properties from natural products. Prof. [REDACTED] is concentrating his studies on Rivea Corymbosa variety and Amanita Muscaria and has isolated some active materials which are of interest.

2. Difficulties in obtaining properly documented raw materials in sufficient quantity for further research have been to a large extent overcome. Considerable renewed interest on the part of several drug companies of foreign origin in related fungi and plant materials believed to have central nervous system activity indicate that there may be chemical compounds in the natural products under study of considerable TSD interest.

3. The [REDACTED] will serve as cutout for transfer of funds to the investigator. The

22-34

estimated cost for the coming year of the work is \$9,300.00.

To this must be added the 4% service charge to the cutout,

thus the total cost for one year will not exceed \$9,672.00.

Charges should be made against allotment 1125-1009-1902.

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project B MKULTRA and has agreed to comply with the terms of the Memorandum of Agreement.

[redacted signature]

Chief
TSD/Research Branch

APPROVED FOR
OBLIGATION OF FUNDS:

[redacted signature]

Research Director

Date: 11/18/60

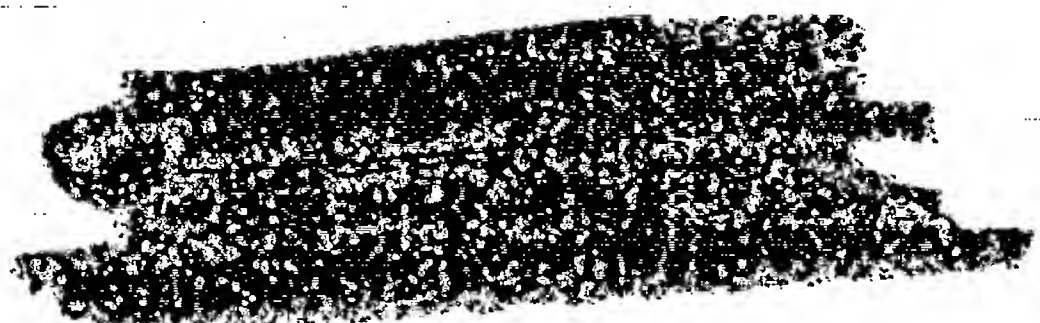
Attached: Budget
Distribution: Original only

[redacted]

72-33

BUDGET 1961

SALARIES	\$4,500
SUPPLIES and EQUIPMENT	2,000
SPECIAL CHEMICALS	500
SPECIAL ANALYSES	350
TRAVEL & COMMUNICATION	600
LIBRARY SERVICE	<u>150</u>
	\$8,100
OVERHEAD (15% of Direct Costs)	<u>1,200</u>
TOTAL	<u><u>\$9,300</u></u>



22-34

PROPOSAL TO

[REDACTED]

B

from

[REDACTED]

C

for renewal of support to investigate

The Physiologically Active Principals
of Amanita Muscaria and

Rivea Corymbosa

Principal Investigator

[REDACTED]

C

President

[REDACTED]

[REDACTED]

C

[REDACTED]

J2-34

PROGRESS REPORT
for
Grant Fiscal Year 1959-60

During this year work has progressed to the point where crystal-
line substances with physiological action have been isolated from
Rivea Corymbosa and Amanita Muscaria. Rather than review all the
work in detail two papers are attached which describe the principle
aspects of the investigation during the year. The first of these
is a paper which has been submitted for publication in [REDACTED]
[REDACTED] regarding Rivea Corymbosa. The second is an adoption of a
paper regarding Amanita Muscaria which was presented before the
[REDACTED] August 15-25, 1960.

H
F

[REDACTED]

Department of Chemistry

U. S. A.

ABSTRACT

A glycoside, which has been assigned the provisional molecular formula of $C_{23}H_{36}O_{12}$, has been isolated from a water insoluble fraction of an ethanolic extract of *Alcea rosea*. Preliminary testing indicates that the compound possesses central nervous system activity.

The root of *A. rosea* was used by the ancients as a general medicinal and as a purgative. The Arabs designated the seed as eloholol. The present work was initiated in January, 1956, to isolate and characterize the chemical entity which is responsible for the reported physiological effects.

The seed was pulverized, extracted with 1,2-dichloroethane and then extracted with absolute ethanol. The ethanolic extract was fractionated with water. The water insoluble material was recrystallized to a constant

Taken in part from the thesis submitted by [redacted] in partial fulfillment of the requirement for the Degree of Doctor of Philosophy in the Graduate Division of the [redacted], 1960.

Present address: [redacted] U. S. A.

The seed was identified as the seed of *A. rosea* by [redacted] of [redacted]

B

C

B

B

of the compound indicated that it is a glucoside which contains only hydroxyl and other functional groups. The acetate was prepared using acetic anhydride and pyridine. The acetate was crystallized to a constant melting point of 247-248°. The glucoside acetate has been assigned a molecular formula of $C_{22}H_{36}O_{11}$. The compound contains seven acetyl groups which indicates seven hydroxyls. Elemental analysis: Found C = 58.21%, H = 7.15%, (Dist) molecular weight 840, acetyl 36.35%. Calculated for $C_{22}H_{36}O_{11}$: C = 58.03%, H = 6.96%, molecular weight 868.90, for seven acetyl groups 35.82%. The compound gives a negative alkyl reaction.

The glucoside was hydrolyzed by suspending it in a methanol-water solution (75% water and 25% methanol) with emulsin. The sugar moiety was identified as glucose by paper chromatography and further confirmed by the comparison of the phenylacetone and the pentacacetate.

The glucose was recrystallized from water and methanol to a constant melting point of 165-168°. The glucose has been assigned a molecular formula of $C_6H_{12}O_6$. Elemental analysis: Found, C = 64.12%, H = 9.07%, $n_D^{20} = 1.085$, $d_4^{20} = 0.6$ (c = 1.000 mg./ml. in methanol); calculated for $C_6H_{12}O_6$: C = 64.05%, H = 8.79%. Terminal methyl 4.30%, and calculated for one terminal methyl group 3.63%.

Analyses were run by

Analyses run by

B

30.45.11
29.65%

It has been shown that the glucoside does not contain unsaturation by the following negative tests: 1. bromine addition, 2. ozonolysis,⁶ and 3. addition of tetranitroethane.

The carbon at label has been studied by means of dehydrogenation with 5% palladium on charcoal at 350°. Phenanthrene has been isolated from the dehydrogenation product using column chromatography (adsorbent: kieselgel column and n-hexane as eluant). Phenanthrene was characterized on the basis of melting point, infrared spectrum and ultraviolet spectrum. Two other compounds have been characterized: 1) 2-methyl naphthalene by its picrate, which is yellow and has a melting point of 115-116°. The compound was not isolated, but the ultraviolet spectrum is similar to that reported for other naphthalene derivatives.⁷ 2) 10-methyl-2-ethyl phenanthrene, which has an orange picrate melting at 108-109°, has been characterized. The ultraviolet spectrum is similar to those reported for phenanthrene derivatives.^{7,8}

⁶ Ozonolysis was run by [redacted] at [redacted], [redacted].

⁷ [redacted], 1951.

⁸ [redacted], 1947, 576.

29-35
[Handwritten scribbles]

When administered to rabbits it has been shown that the glucoside is approximately five times as potent a central nervous system stimulant as is the initial ethanolic extract of oblongifolius. Doses above the level of 31.6 mg/kg. prove fatal to test animals within 3-10 minutes.

In the final stages of the preparation of this report, the report of [redacted] and [redacted] was noted in [redacted] No. 7, pp. 30-32. C

A careful recheck of our experimental data confirms the validity of the formulas we are reporting. Whereas, it is possible that [redacted] reported by [redacted] and [redacted] may differ from the glucoside reported here, it is most likely that the two are identical. In all cases our analytical results are reported as crystalline, constant melting compounds. C

The acetyl esterifications were run on compounds whose infrared spectra indicated complete acetylation. On the basis of the evidence available to date, we believe the carbon skeleton of the aglycone to be a hydrogenated pyrene-naphthalene which contains four hydroxyl and three other oxygen-bridged ethers.

STUDIES IN THE HALLUCINOGENIC PRINCIPLES
OF AMANTIA MUSCARIA

Presented before the

August 18, 1950

The first slide (not included) gives a mycologist's view of the plant material which is the subject of this paper. A variation of the same species has yellow coloration with white vesicles. Strictly speaking this is not a poisonous plant nor is it a total fool as many have called it.

For several centuries a large number of investigators from various countries have studied this beautiful fungus with different viewpoints. Chemists, physiologists, pharmacologists, pathologists, botanists, mycologists and recently, as well as seven hundred years ago, amateur explorers such as Albertus Magnus in 1256 and [redacted] and [redacted] within the past five years.

Practitioners in the field of psychoneurosis and extra sensory perception also have investigated and reported on the mushroom. As a result there is an enormous mass of literature on the subject, some of which is open to considerable doubt and some of which is contradictory. Records, which may or may not have basis in truth, date interest in the plant to the ninth century when Norse tribes are reported to have used it under the name Flugswamp (or Fly mushroom) as a narcotic which gave rise to the Berserkung of the same period of Viking history.

It is a well established fact that the fungus is still used by certain eastern Siberian tribes for its narcotic and hallucinogenic effects. Although it was these characteristic psychopharmacologic effects in humans which spurred research on Amantia Muscaria, the chemical agent (or agents) which give rise to the effects has not been reported in the literature.

An impressive amount of work has been reported by many workers on the isolation and proof of structure of muscarine from Amantia Muscaria. This alkaloid of unusual structure and high toxicity has physiological effects in humans and test animals which bears slight resemblance to the main effects of the ingested whole mushroom. Salts of muscarine have been isolated in pure form and its structure

isolating alkaloids, an attempt was made to concentrate neutral or even slightly acidic fractions. Still more important, each step in the fractionation was followed by bioassay in order to separate those fractions which produced in test animals effects like those produced by muscarine, i.e., a convulsant effect or at least an effect like muscarine. The method of Rothstein (Ann. N.Y. Acad. Sci. 60: 503, 1951) was followed. By this procedure we have been able to obtain two main fractions in which are concentrated 150-200% muscarinic-like activity.

SLIDE II

Here are shown references to early knowledge of the fungus. The first four are extremely interesting but largely untechnical.

The last reference is an excellent one to review the work on muscarine up to 1958.

SLIDE III

These important papers point out the inherent difficulties involved in the isolation of muscarine. The first muscarine extract was isolated by Schaeffer in 1860. However, King in 1922 was the first to obtain pure salts of the base. Slijster, in an attempt to locate a more fruitful source, tried Triclype species without notable improvements. Eulenberg's reported yields are for crude extracts, not the pure salt.

SLIDE IV

These references indicate some of the attempts to isolate the hallucinogenic principle of Amanita Muscaria. Melander and Motrel reported the presence of Bufotenin in Amanita Muscaria, Pantherium and Miscarinea. The alkaloid mappine reported from A. Muscaria was found to be identical to Bufotenin. The Bufotenin was not actually isolated but was identified by chromatography. Furthermore, considerable doubt is cast on this assertion as well as that by Lewis as a result of subsequent

followed.

SLIDE VI

Here is described a routine preliminary examination on 25g of Amanita Muscaria which represented 1/10 of our total supply at the time. The petroleum ether soluble fraction was separated into a basic fraction by extraction with dilute acid. This was followed by extraction with dilute base to give an acidic fraction. The remaining fraction was of neutral character. Previous preliminary extraction had revealed the presence of only traces of base. A similar separation was effected on the alcoholic extract of the collected mushrooms here.

SLIDE VII

Utilizing a modified Soxhlet type extraction on the remaining mushrooms, separation of the ethereal extract was made as noted in Slide VI. From the base a water soluble crude extract was obtained with high L.S.D. type activity contaminated with muscarinic activity. Also, the methanolic extract yielded 63% of crystalline material from the fraction which should be largely free of protein material. This product has not been identified. Analysis shows C, 39.4%; H, 7.5%. The IR spectra indicates no aromatic character.

SLIDE VIII

A.M. 10 - The water soluble extract is turbid with a strong fecal odor. Following the procedure used by [redacted] in isolating Psilocybin, we obtained traces of a crystalline compound which has not been identified. Its IR spectrum is not similar to psilocybin, bufotenin and related compounds. Paper chromatography has shown the presence of indole acetic acid and tryptophane in this fraction.

SLIDE IX

100

also collected about 200 lb. of Amanita B

that obtain A previously (indicating that our separation was not completely successful).

SLIDE XIII

The extraction procedure shown on the previous slides was used with 200 lbs. of *Asarite Muscaria*.

SLIDE XIII

The alcoholic extract was fractionated with acetone to remove protein materials.

SLIDE XIV

The acetone soluble fraction was partitioned with Stoll's I and 70% aqueous methanol. The oily fraction A, containing esters, was similar to previous oily fractions. Bioassay indicated a complete absence of muscarinic activity.

The aqueous phase was separated into an ether soluble fraction B and an ether insoluble portion C.

SLIDE XV

The fraction consisting of essential oils was subjected to silica column chromatography and two main fractions were obtained. These were examined in more detail. Although quite similar in terms of neutralization equivalent and saponification equivalent, the bioassay indicated considerable difference. Hypertensive activity was concentrated in II and hygratic activity was concentrated in I. Gas chromatography of the methyl esters revealed a "normal" distribution of fatty acids.

single substance rather than a mixture. It will be noted that as more polar eluents were used a crystalline product of unknown nature was obtained.

SLIDE XVII

An attempt was made to purify the ether insoluble material by chromatography on a diethyl ether ethyl cellulose column. Fractionation of the concentrate yielded a crystalline material melting at 105°. Fraction "F", on bioassay, produced hypothermia - probably due to vasodilatation. Also, this material had high potency as a muscarinic type agent; i.e., nicotinic, excessive salivation and excessive lacrimation.

SLIDE XVIII

Until now we have been considering the acetone soluble fraction of the acetone extraction of the *Ipomoea* Muscarin. Here is shown an attempt to fractionate the acetone insoluble portion. A neutral extract of a fraction "C" which compared favorably in muscarinic type action with muscarine itself. The lethal dose was 5.2 mg/kg, compared with 6-10 mg/kg reported for Schoenberg's muscarine, when injected intravenously in rabbits. In other biological tests "C" compared favorably with muscarine.

The n-butanol insoluble portion was extracted with ethanol to give a fraction "D" which contained only slight muscarinic activity and slight L.S.D.-like activity.

SLIDE XIX

"C" on prolonged refrigeration yielded crystals of D,L-sorbitol. The supernatant resisted further purification by chromatography.

SLIDE XX

The residue from previous chromatography was exhaustively fractionated with ether and tetrahydrofuran. The major product obtained was additional crystalline material, similar to that obtained from "F". It is possible that this material is related to muscarine or choline.

SLIDE XXIII

The residue from the 100% ethanol extract was further extracted with absolute ethanol. From this, fraction "B" was obtained. The residue on 5% extraction gave fraction "C".

SLIDE XXIV

From "B" was obtained a crystalline product which upon purification melted at 183°C. This material is neither aromatic nor indolic and has not been identified.

SLIDE XXV

The supernatant, fraction "B-1" on extraction with ether-crucially gave an oil in all respects similar to the oil referred to previously which exhibited 150-25 type activity. The ether insoluble portion was extracted with chloroform and acetone. A fraction was obtained which yielded a crystalline product as yet unidentified.

In summary, in our investigation of *Sanzlia mucronata* we have isolated trans-caffeic acid, D, L-caffeoyl, and several other unidentified crystalline substances. Linal acetic acid and cryptochlorogenic acid have been detected but pulegone and hydroxyacetone have not been. A rather large essential oil fraction has been obtained in which is concentrated 150-25 activity. Also, a water-soluble concentrate of high potency has been obtained.

Note at a later date. From this oil has been separated an unidentified crystalline substance.

37
~~32~~

Research Plans for 1960-61.

As indicated in the accompanying progress reports and papers related to the research supported by the grant, several crystalline substances have been isolated from Amanita Muscaria and Rivea Corymbosa. Future work will be organized to accomplish the following objectives:

1. Ascertain, by means of biological testing, which, if any, of the crystalline materials exhibit significant physiological effects in test animals. (This work is being carried out under the supervision of Dr. [REDACTED] at the [REDACTED] [REDACTED])
2. Complete fractionation and purification of crude concentrates which exhibit physiological effects in test animals.. When pure crystalline substances are isolated they will be identified or structural elucidation will be attempted.
3. For those substances, which exhibit significant physiological effects and which have novel structure, an attempt will be made to synthesize them and compounds with related structure in order that relative physiological activity can be determined.

At the recent [REDACTED] it was revealed that Dr. [REDACTED] of [REDACTED] in [REDACTED] has isolated three indolic compounds related to Lysergic acid from Rivea Corymbosa. Also it was learned by private conversation that research teams of several of the countries leading drug firms have isolated flavanoid glycosides from Rivea Corymbosa. The structures have not been determined nor has work been published other than that by [REDACTED] and [REDACTED] in [REDACTED] (1960). As a result of these developments less emphasis will be directed toward continuation of this investigation. Dr. [REDACTED], who as a pre-doctoral graduate student worked on this problem, is now located at [REDACTED] and plans to complete structural elucidation of the glycoside isolated in our laboratory from Rivea Corymbosa. If it is possible to obtain a sizable quantity of Rivea Corymbosa from an area in [REDACTED] where the plant is used for medicinal or occult purposes, then it is proposed that the sample be carefully investigated to ascertain if it contains indolic compounds or glycosides significantly different from the samples collected in areas where the plant is not utilized for its physiological action.

D, C

C

C

C

F

2238

PROPOSED BUDGET FOR FISCAL YEAR 1960-61

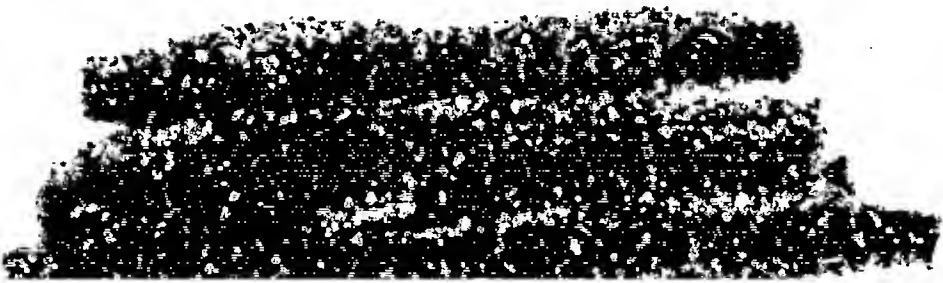
November 1, 1960 - October 31, 1961

Research Fellowship (a) \$200 per month -----	\$2400	} salary
Miscellaneous student help (a) \$1.50/hr. (400 hrs.) ----	600	
Stipend for senior investigator (during summer) -----	1500	
Special chemicals, natural product samples, and supplies (expendable) -----	500	✓
Special analyses on research samples -----	350	✓
Travel and communication in connection with project ----	600	✓
Special books, reprints, manuscript and slide preparation and translations related to project -----	150	✓

Capital Items:

1. Ozone meter for ozonolysis apparatus which we
have ----- 100
 2. Matching funds for photoelectric attachment
for Model No. 80 Rudolph Polarimeter ----- 500
 3. Components (sweep unit, coils and probe) to
adapt our NMR for fine line work in
connection with project ----- 1400
- \$8100
- Indirect costs (15% of request) ----- 1200 ^{\$1215}
- Total request in renewal of grant ----- \$9300

Signed/ _____



BUSINESS OFFICE

C 22
22 37

[REDACTED]

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
06010000

1000000

[REDACTED]

C

\$11,097.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00
Supplies and Expenses	1,810.79
Equipment	1,197.00
Overhead	1,454.78
Total Expenditures	<u>10,401.57</u>

10,401.57 -

Balance as of October 31, 1960

669.43

I have examined and approved the submitted expenditures.

[REDACTED] B

Chief
Chemical Division

I certify that the above statement of account is correct.

[REDACTED] B

Business Manager

Date: 11/22/60

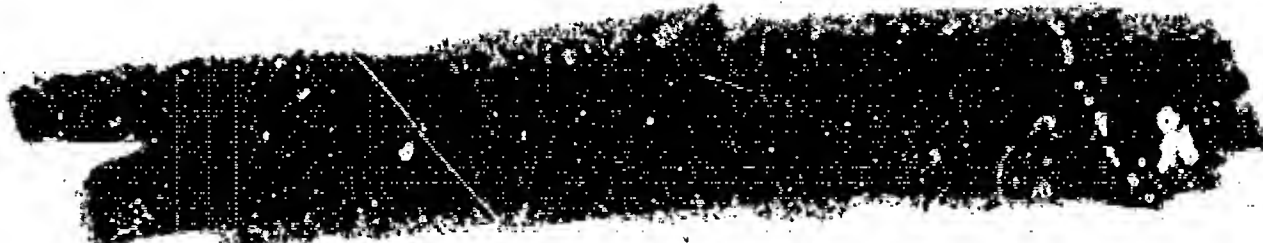
[REDACTED]

BUSINESS OFFICE



B

22-40
~~J. J. J.~~

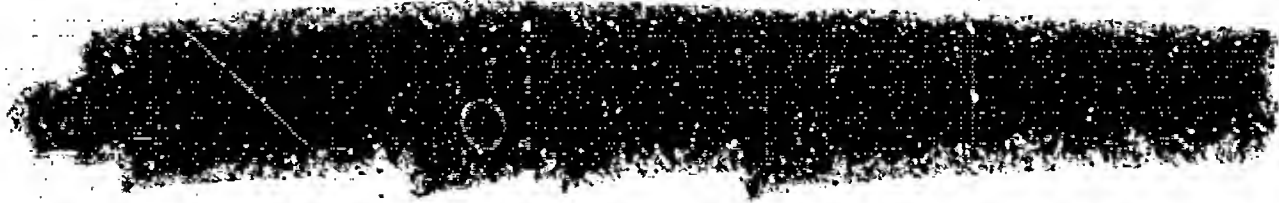


B

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
OLOLIUQUI

INCOME:



B

\$11,067.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00	
Supplies and Expenses	1,840.79	
Equipment	1,197.00	
Overhead	1,454.78	
Total Expenditures		<u>10,401.57</u>

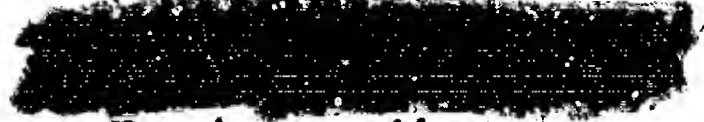
Balance as of October 31, 1960

\$665.43

I certify that the above statement of
account is correct.



C



Business Manager

C

BUSINESS OFFICE

Report of Expenditures
November 1, 1959 - October 31, 1960

Fund 6795-76
OLOLIQUI

INCOME:

\$11,067.00

Expenditures:

Salaries and Wages (including Fellowships)	\$5,909.00	
Supplies and Expenses	1,840.79	
Equipment	1,197.00	
Overhead	1,454.78	
Total Expenditures		<u>10,401.57</u>

Balance as of October 31, 1960

\$665.43

I certify that the above statement of account is correct.

I have examined and approved the submitted expenditures.

Business Manager

Chief
TSS/Chemical Division

Date: 24 November 1961

COPY

Department of Chemistry

October 7, 1960

DEPARTMENT OF CHEMISTRY

Attention: [redacted] Assistant Treasurer

Dear [redacted]

Attached are two copies of an application for renewal of the grant which now supports a research project under my supervision. An account of funds for the past year will be supplied by our fiscal office at the end of the month. If there is additional information which you desire, I will be happy to try and supply it. I would like to express my appreciation for your support which is making possible the research reported in the attached application.

Sincerely yours,

[redacted] Head
Department of Chemistry

attachment

cc: [redacted]

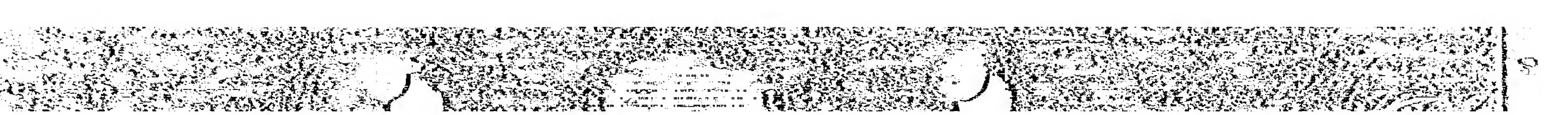
B this is the letter and proposal sent to [redacted]. The budget is the same as I sent to you.

C About Tuesday I will send you my comments on the symposium
Sincerely
[redacted]

SD/CA/1000

Order & Certification

1 - TSD/PASS
2 - TSD/CB



22-44

27 January 1960

MEMORANDUM FOR: THE RECORD

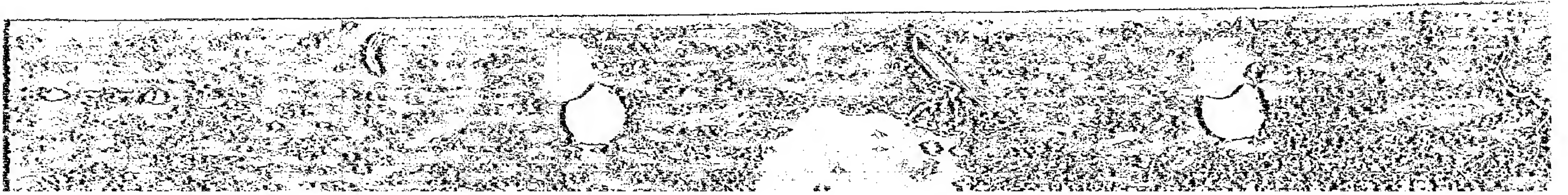
SUBJECT : Action on MKULTRA Audit Exceptions -- TSS/CD

SP#22

- A. \$1,703.57 was used for SP#51 per memo dated 21 August 1959. B
\$1,487.50 being held in [REDACTED] will be utilized on another
project in the near future.

[REDACTED]
Chief
TSS/Chemical Division

A



22-45



B

Report of Expenditures
July 1 to October 31, 1959

Fund 6795-76
OLOLIUQUI:

Overdraft, June 30, 1959
Income:

B

\$ (185.32)
5,365.00
\$5,179.68

Expenditures

Salaries & Wages (including fellowships)	\$1,960.00	
Supplies and Expenses	334.24	
Equipment	1,294.63	
Overhead	1,590.81	
Total		<u>5,179.68</u>

Balance, October 31, 1959

-0-



C

I have examined and approved the submitted expenditures.



A

Chief

TSS/Chemical Division

Date: 217 *lv* 1961

22

[Redacted]

AT

[Redacted]

B

22-46

July 30, 1959

[Redacted]

B

Attention [Redacted], Executive Secretary-Treasurer

C

Dear [Redacted]

Enclosed is the financial report as prepared by our treasurer on the grant which your organization made to Dr. [Redacted]

C

The report covers the full period from November, 1957, to June 30, 1959. We will be happy to furnish further itemizing should you so require.

I am happy to report that considerable progress is being made on this rather difficult project. Dr. [Redacted] has two very promising doctoral candidates assigned to the problem. They are devoting a great deal of time and concentrated effort to this investigation. We are grateful to the [Redacted] for the fine support this organization has given us for this particular investigation.

C

B

Sincerely,

[Redacted Signature]

Executive Director

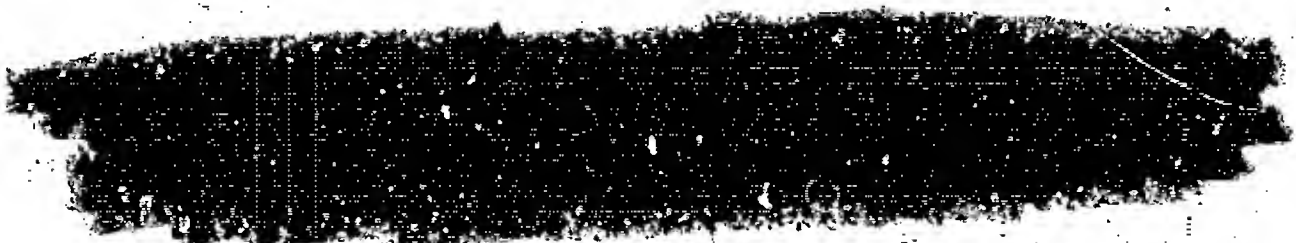
C

cc/ [Redacted]

C

22

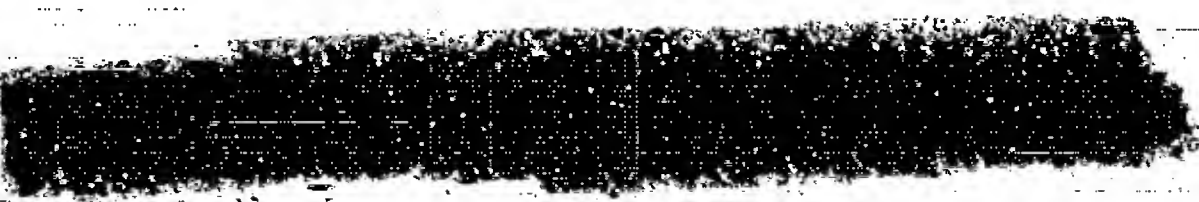
B 22-47



Period of Report
November 12, 1957
to
June 30, 1959

Fund 6795-76
OLOLIUQUI:

Income



B

\$21,684.00

Expenditures

Salaries and Wages	\$7,141.73	
Supplies and Expenses	1,418.38	
Equipment	<u>13,309.21</u>	
Total Expenditures		<u>21,869.32</u>
Overdraft, June 30, 1959		\$185.32

I have examined and approved the submitted expenditures.



A

Chief

TSS/Chemical Division

Date: 3

7 OCT 1959

8 September 1959

57-48

[REDACTED]

B

Gentlemen:

We are pleased to be able to transmit to you the following funds:

Check No. [REDACTED] drawn on the [REDACTED], for \$11,567.00.

E
E

Check No. [REDACTED] drawn on [REDACTED] of [REDACTED], for \$462.68.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

34-57

25 August 1959

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MKULTRA, Subproject 22, Invoice #9
Allotment 9-2502-75-902

1. Invoice #9 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$11,567.00, drawn
on a [REDACTED] E

Cashier's check in the amount of \$462.68, drawn on
a [REDACTED] E

Both checks should be made payable to [REDACTED] B

2. The checks should be forwarded to Chief, TSS/Chemical
Division, through TSS/Budget Officer, no later than 4 September 1959.

3. This is a final invoice. However, since it is anticipated
that additional funds will be obligated for this project, the files
should not be closed.

[REDACTED] A

Chief

TSS/Chemical Division

Attachment:
Invoice & Certifications

CHECK [REDACTED] IN THE AMOUNT OF \$462.68
RECEIVED

Distribution:
Orig & 2 - Addressees

[REDACTED] C

CHECK [REDACTED] IN THE AMOUNT OF \$11,567.00
RECEIVED

BECEIVED

[REDACTED] C

GERTIFICATION

7/2/50
1525
4/25

(3) It is hereby certified that the program under subprojects 49 and 59 have been satisfactorily completed and returned unused funds. However, subproject 22, which is still continuing also refunded money. Therefore, it is requested that the amounts as shown below on Invoice No. 10 of subproject 51-B be credited to the subprojects as shown below.

<u>Project</u>	<u>Amount</u>	<u>MOR</u>	<u>Allotment</u>
#22	\$1,703.57	585	6-2502-10-001
#49	3,224.87	1544	6-2502-10-001
#59	63.73	1912	6-2502-10-001

Chief, TSS/Chemical Division

Date: _____

Research Director

Date: _____


25 June 1959

MEMORANDUM FOR: COMPTROLLER

ATTENTION : Finance Division

SUBJECT : Project MULLER, Subproject 22
Additional Authorization #7

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the IO/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$12,029.68 of the over-all project MULLER funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.


Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:

Research Director

Date: _____

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OC
- 1 - TSS/FASB
- 2 - TSS/CD

TSS/  (29 June 1959) 

22-54
DRAFT
25 June 1959

MEMORANDUM FOR: THE RECORD

SUBJECT : Project MKULTRA, Subproject 22

1. The purpose of this Subproject is to provide funds to continue the research of Prof. [REDACTED] on the isolation of compounds having psychogenic and related properties from natural products. [REDACTED] is concentrating his studies on Rivea Corymbosa variety and Amanita Muscaria and has isolated some active materials which are of interest. (B) (C)

2. Difficulties in obtaining properly documented raw materials in sufficient quantity for further research have been to a large extent overcome. Considerable renewed interest on the part of several drug companies of foreign origin in related fungi and plant materials believed to have central nervous system activity indicate that there may be chemical compounds in the natural products under study of considerable TSD TSS interest. (B) (C)

3. [REDACTED] will serve as cutout for transfer of funds to the investigator. The estimated cost for the coming year of the work is \$^{49,300}11,567.00. To this must be added the 4% service charge to the cutout, thus the total cost for one year will not exceed \$^{9,672}12,029.68. (B)

4. A Memorandum of Agreement has been signed by the contractor whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

22-54

5. It has been mutually agreed that documentation and accounting for travel expenses under the grant which are reimbursable by the University shall conform with the accepted practices of that institution.

6. Prof. [redacted] holds a covert clearance under Project MKULTRA *C* and has agreed to comply with the terms of the Memorandum of Agreement.

[redacted]

Chief
FSS/Chemical Division
TSD / Research Branch

A

APPROVED FOR OBLIGATION
OF FUNDS:

[redacted]

Research Director

Date: 6/30/59

Attached:
Budget

Distribution:
Original only

[redacted]

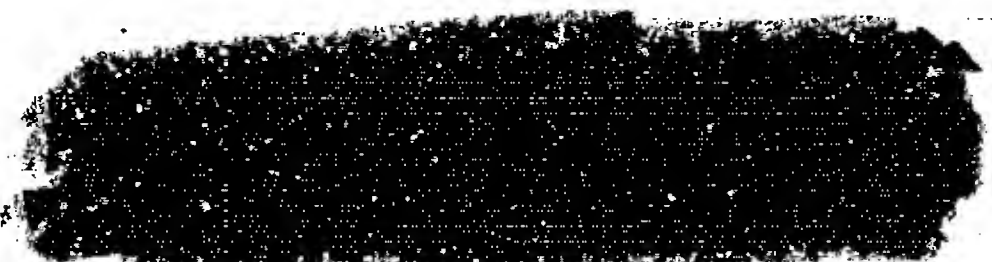

[redacted]

22-50

Budget for One Year Renewal of Research Project on Investigation of Amanita

Muscaria and Rivea Corymbosa - Nov. 1, 1959-Oct. 31, 1960

Research Fellowships - two (a) \$200 per month	\$4800.00
Senior Investigator - during summer	1200.00
Capital Equipment - (Electric desalting apparatus, explosion proof homogenizer, vacuostat, spinning paper chromatography apparatus, etc.)	2410.00
Special Chemicals and supplies not ordinarily stocked by Department of Chemistry	850.00
Special analyses on research samples	300.00
Travel and telephone in connection with grant	450.00
Miscellaneous - phottocopy, monographs, etc.	50.00
	\$ 10,060.00
15% overhead	1,507.00
Total grant request	\$11,567.00


Department of Chemistry


C
B

20-57

6 January 1959

MEMORANDUM FOR: CONTROLLER

ATTENTION : Finance Division

SUBJECT : Project MULTRA, Subproject 22
Additional Authorization #6

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the EO/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$394.68 of the over-all project MULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.

[Redacted Signature]

A

Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:

[Redacted Signature]

A

Research Director

7 JAN 1959

Date

SEARCHED INDEXED SERIALIZED FILED

1658
9-2502-75-902

Distribution:

Orig & 2 - Addressee

- 1 - TSS/CD
- 1 - TSS/FASB
- 1 - TSS/SRB
- 2 - TSS/CD

[Redacted Stamp]

for the chemical investigation of River
products, under the direction of [redacted] within the [redacted]

A grant of nine thousand seven hundred and thirty dollars (\$9,730.00)
of a period of 12 months has been approved by the [redacted] in [redacted] B
originally with [redacted] the grant will be advanced on a quarterly
basis. A check for the first quarter in the amount of two thousand four hundred
and thirty two dollars and fifty cents (\$2,432.50) is enclosed. The balance of
the grant will automatically be advanced on a quarterly basis. November 1, 1958
has been designated as the beginning of the grant period.

A financial summary accounting of monies received from us in 1958 has
been rendered by [redacted] It is very satisfactory
of our accounting purposes.

[redacted]'s progress report has been well received by our Board of
Directors. He is to be commended for his success and creditable efforts in a
highly specialized field of research. In a small way, we are proud to be of
assistance to [redacted] in his research efforts.

Sincerely yours,

B

Continued

We are pleased to be able to transmit to you the following funds:

Check No. [redacted] drawn on the [redacted] of E
[redacted], for \$9,867.00.

Check [redacted] drawn on the [redacted] of E
[redacted] for \$394.68.

These funds represent a contribution for the use of your directors in carrying out the very worthwhile research goals of your organization.

Yours truly,

Enclosures: (2)

72-60

3 November 1958

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MILTRA Subproject 22, Invoice No. 8
Allotment 9-2502-75-902

1. Invoice #8 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$9,867.00 drawn on a

Cashier's check in the amount of \$394.68, drawn on a

Both checks should be made payable to

F
E

B

2. The checks should be forwarded to Chief, TSS/Chemical
Division, through TSS/Budget Officer, no later than 17 Nov. 58.

3. This is a final invoice. However, since it is anticipated
that additional funds will be obligated for this project the files
should not be closed.

[Redacted Signature]

Chief

TSS/Chemical Division

A

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller
1 - TSS/FASB

A

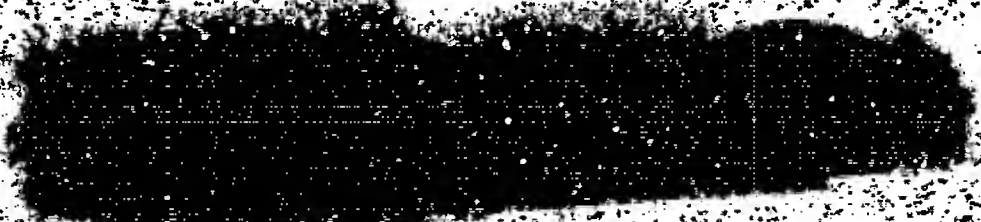
TSS [Redacted] w (3) 11/58) A

[Redacted]

INVOICE

77-01
\$10,261.68

For services



CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 8 applying to MOUTRA Subproject 22, that performance is satisfactory; that the services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that the bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MOUTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:



4 June 1957

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA: TSS/Budget Officer

SUBJECT: MKULTRA Subproject 22, Invoice No. 8
Allotment 7-2502-10-001

1. Invoice No. 8 is attached covering the above subproject. Payment should be made as follows:

Cashier's check in the amount of \$158.67, drawn on [redacted] E

Cashier's check in the amount of \$3,966.67, drawn on [redacted]

Both checks should be made payable to the [redacted] E

2. Please forward the checks to Chief, TSS/Chemical Division through TSS/Budget Officer by Tuesday, 18 June 1957.

3. This is a final invoice. A total of \$6,188.00 was obligated under this subproject during FY 57. However since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[redacted] A
Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller

CHECK # 044197 IN THE AMOUNT OF \$158.
RECEIVED 24 JUN 1957

Dr. 887-001226-600.1-2502-10-001-1221-4125.34 E
C. Cash \$4,125.34

1825-2502-10-001-1221-4125.34 RECEIVED 24 JUN 1957

CERTIFIED FOR PAYMENT OR CREDIT

RECEIVED

AUTHORIZED CERTIFYING OFFICER

52817

~~SECRET~~

INVOICE

For services

\$4,125.34

B

CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 6 applying to MKULTRA Subproject 22, that performance has been satisfactory, that the services have been accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSS/CD, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSS/Chemical Division

Date:

(2) It is hereby certified that this invoice applies to MKULTRA Subproject 22, which was duly approved, and that the project is being carried out in accordance with the memorandum dated 13 April 1953, from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date:

~~SECRET~~

22-63

MISCELLANEOUS OBLIGATION RECORD

NUMBER

1058

CHARGE

FISCAL YEAR

9

ALLOT. CODE NO.

2502-15-962

OBJECT CLASS

INSTRUCTIONS: Prepare original only

PAYMENT DATA

NAME OR CRYPTO OF PAYEE (Individual, Firm, etc.)

PURPOSE OF PAYMENT

PERIOD COVERED

METHOD OF LIQUIDATING OBLIGATION

DATE OBLIGATION INCURRED

CONTRACT NO. OR OTHER REFERENCE, IF ANY

SINGLE PAYMENT

IRREGULAR PAYMENTS

REGULAR MONTHLY PAYMENTS

EST. DATE OF FINAL PYM'T.

DATE

REMARKS AND REFERENCES

OBLIGATIONS INCURRED

OBLIGATIONS LIQUIDATED

UNLIQUIDATED BALANCE

5 Nov. 1958

Authorization Sub 22 HKulla

9867.00

9867.00

31 DEC 1958

Invoice #8

9867.00

394.68

394.68

7 JAN 1959

Authorization Sub 22

394.68

Log 1

77-64

24 October 1958

MEMORANDUM FOR: CONTROLLER

ATTENTION : Finance Division

SUBJECT : Project MULLER, Subproject 22
Additional Authorization \$5

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$9,867.00 of the over-all project MULLER funds has been obligated to cover the subproject's expenses and should be charged to Allotment 9-2502-75-902.

~~XXXXXXXXXXXXXXXXXXXX~~
Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:

~~XXXXXXXXXXXXXXXXXXXX~~
Research Director

Date _____

I CERTIFY THAT FUNDS ARE AVAILABLE;
OBLIGATION REFERENCE No. 1058
CHARGE TO ALLOTMENT No. 9-2502-75-902

AUTHORIZING OFFICER

- Distribution:
Orig & 2 - Addressee
1 - TSS/OC
1 - TSS/FASB
1 - TSS/SRB
2 - TSS/CD

~~XXXXXXXXXXXXXXXXXXXX~~

22-65

3 November 1958

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MULTRA Subproject 22, Invoice No. 8
Allotment 9-250-75-902

1. Invoice #8 covering the above subject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$9,867.00

Cashier's check in the amount of \$394.68, drawn on

Both checks should be made payable to

2. The checks should be forwarded to Chief, TSS/Chemical
Division, through TSS/Budget Officer, no later than 17 Nov. 58.

3. This is a final invoice. However, since it is anticipated
that additional funds will be obligated for this project the files
should not be closed.

Chief
TSS/Chemical Division

Attachments:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee
1 - Comptroller

PAID
162103
NOV 15 1958

10-	989	001057	600.1	2	9,867.00	17.2	9,867.00
	889	001157	600.1	2	394.68	17.2	394.68
				1328	NOA-0	9,867.00	
							394.68

REC- [redacted]

~~SECRET~~

TO: TSS/OC

This is an invoice against previously obligated funds.

1. Date of Obligation: 30 October 1958

2. Purpose of Project: Extraction of
Natural Products.

3. Progress to Date: Satisfactory

4. Expiration Date: 30 October 1958

5. Project Monitor: Dr. [REDACTED] **A**

FROM: TSS/OC

Room B-1, [REDACTED] Ext. [REDACTED]

Regraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977
2 IMPDET; CL BY 187475

DRAFT

23 October 1958

MEMORANDUM FOR THE RECORD

SUBJECT : Project MKULTRA, Subproject 22

1. The purpose of this Subproject is to provide funds to continue the work of Prof. [redacted] on the isolation of psychogenic compounds from natural products. Prof. [redacted] has been working on Rivea Corymbosa and Amanita Muscaria and has been able to isolate a number of interesting materials from these sources.

2. Progress in this field has been somewhat delayed due to difficulties in obtaining properly documented raw materials; however, sources have now been developed which should correct this difficulty and make possible the completion of the project. The recent success of the Swiss Chemists in isolating and elucidating the structure of a new psychochemical from a fungus indicates the feasibility and the necessity of continuing work of this type.

3. The [redacted] will serve as cutout for transfer of funds to the investigator. The estimated cost of the work is \$9,867.00. To this must be added the 4% service charge to the cutout, thus the total cost for one year will not exceed \$10,261.68.

4. Prof. [redacted] has signed the Memorandum of Agreement whereby title to permanent equipment is retained by the University in lieu of higher overhead charges and arrangements are made for accounting for funds disbursed under the grant.

Regraded to: CONFIDENTIAL
by authority of: 187475
date: June 1977
2 IMPDET; CL BY 187475

BUDGET FOR 1959-60

Salaries, two pre-doctoral fellowships, principal investigator and part-time help	5,460.00
Supplies and equipment	2,000.00
Special chemicals and materials	500.00
Special Analyses on research samples	300.00
Travel and communications	400.00
Library Service	100.00
	<u>8,760.00</u>
Total for basis of computing University overhead	7,260.00
15% Overhead	<u>1,107.00</u>
Total	9,867.00

WARNING NOTICE

SENSITIVE INTELLIGENCE
SOURCES AND METHODS INVOLVED

UNIVERSITY, [REDACTED]

Dr. [REDACTED]

July 1, 1956, through Oct. 1, 1957

Acct 570 -- Final Report

B

22

C 22-67

Balance, July 1, 1956 (Per prior report)	\$1 730 74
Receipts: August 31, 1956, 4th quarter	1 325 00
January 31, 1957, 1st quarter	1 487 50
March 18, 1957, 2nd quarter	1 487 50
June 24, 1957, 3rd quarter	1 487 50

Total to be accounted for 7 518 24

Expenditure and charges:

Total direct charges per prior report, 2/28/57	4 202 46
Salaries, 6 mos. @ 150.00	900 00
Travel expense, Dr. [REDACTED]	30 00
Telephone and telegraph	8 00
Supplies and Miscellaneous	145 57

Total Direct Charges 5 286 03

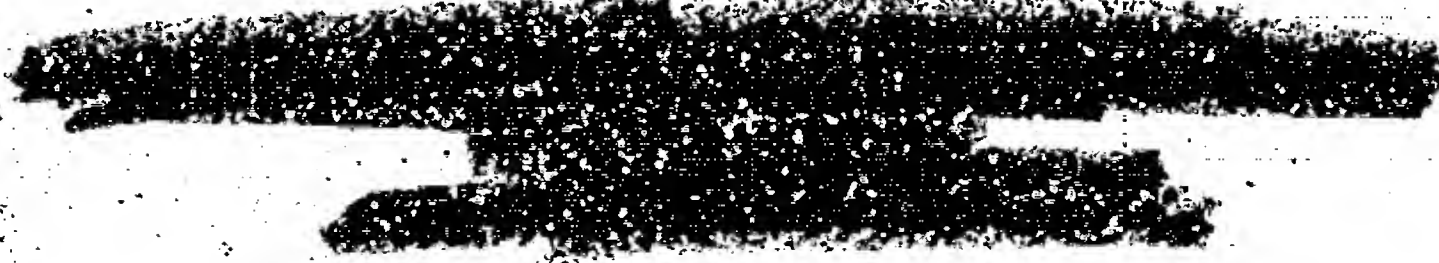
Overhead, 10% of Direct Costs 528 61 5 814 67

Unexpended Balance, Oct. 1, 1957 \$1 703 57

* Check for \$1,703.57 to cover refund of unexpended balance forwarded to [REDACTED]

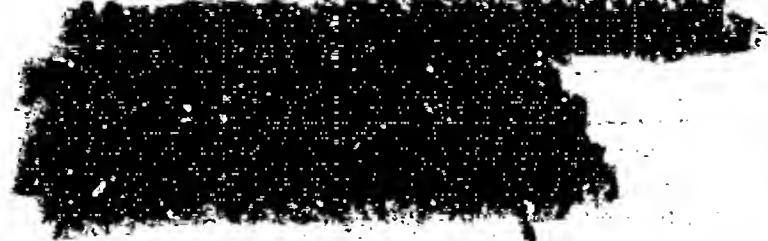
B

22-68



Mr. [REDACTED]

2 November 1957



Dear Mr. [REDACTED]

This is to acknowledge the receipt of the following checks ;

Check #G 20251 drawn on the [REDACTED] for \$16,819.00.

Check #DM 43521 drawn on the [REDACTED] for \$672.76.

Your generous contributions are greatly appreciated. The funds will be utilized by our Board of Directors in furthering worthwhile research projects in the field of medical sciences.

Yours truly ;



Executive Secretary - Treasurer

POSTAGE WILL BE PAID BY ADDRESSEE

NOV 2 1957

DRAW FOR PEACE

RETURN TO

1098

Complete instructions to Donor on back of article. Enclose with RETURN RECEIPT REQUESTED.

Request for renewal of support for the project:

Investigation of the seed of Rivea Corymbosa(ololiuqui).

Summary of work, November 1, 1955 - September 25, 1956:

Physical examination of the seed used in this work reveals that two "types" have been under investigation. Taxonomically all the seed have been called Rivea Corymbosa although one variety (the seed are the larger of the two varieties) originated in Mexico and one variety originated in Cuba. The literature on the subject of ololiuqui, as far as I can ascertain indicates that its use as a psychic drug has been restricted to Mexico. This data alone would indicate the probability that the Cuban variety lacks some physiologically active component which the Mexican variety contains. Experimental work in this laboratory has been largely restricted to the Cuban variety (small seed since only a very small amount of the Mexican variety has been available. The chemical work, although not designed to compare the composition of the two varieties, has indicated some difference in the two. Also physiological tests on humans are indicative of a difference in the two varieties. This work is much too inconclusive to be much more than speculation at this time.

In addition to the isolation of glucose and hydroquinone as constituents of ololiuqui as reported in the last progress report, two crystalline fractions have been isolated which seem neither to be alkaloid or glycoside. Due to the small quantity of seed available the amount of these crystalline fractions is extremely small and little more than qualitative tests have been made on them. Experimental techniques, especially in extraction and separation, have been perfected which will be used to isolate pure components of the drug which, just today, has become available in sufficient quantity to make the investigation profitable.

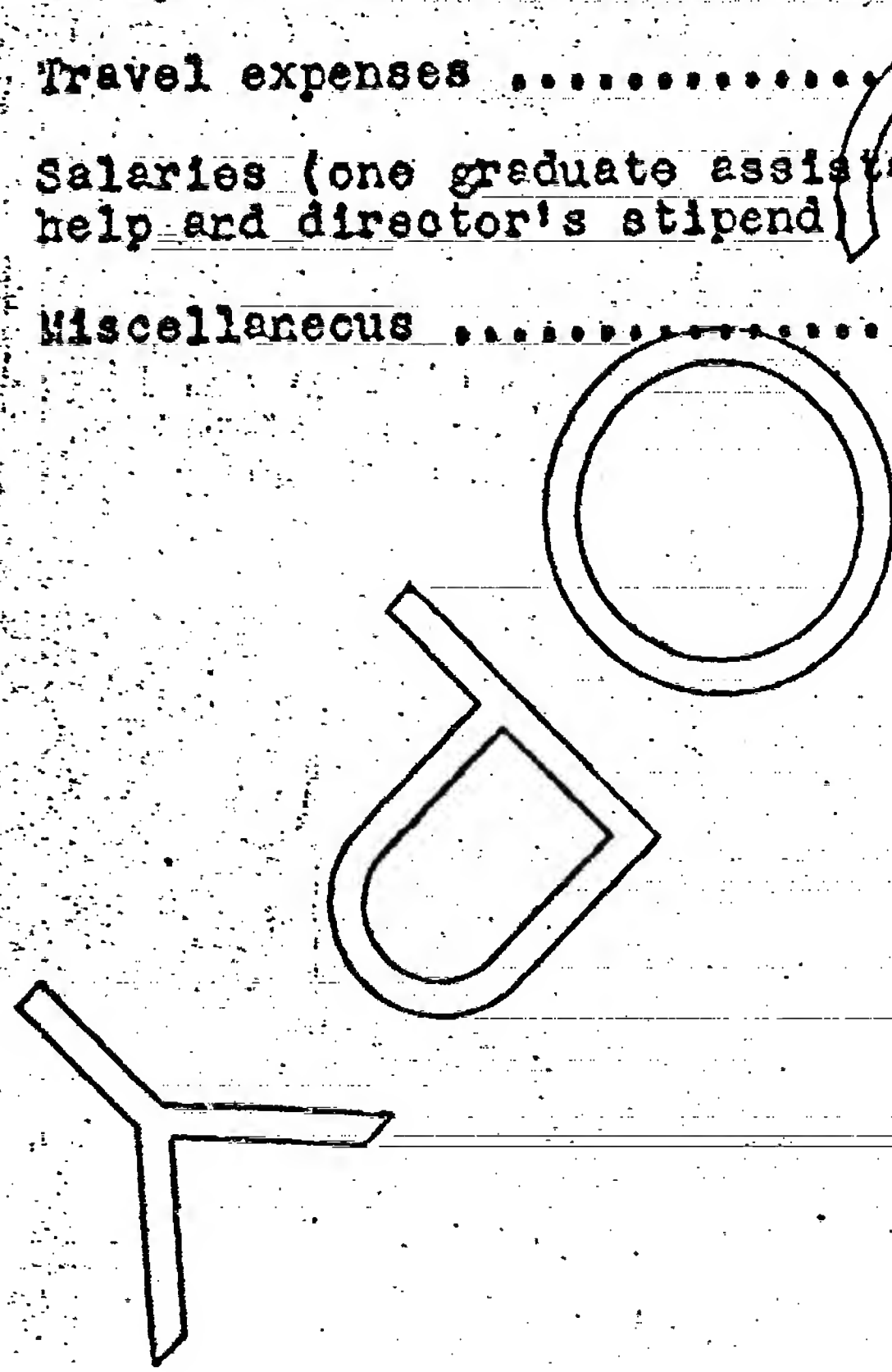
Plans for future investigation:

Now that 50 pounds of the Cuban variety and 10 pounds of the Mexican variety are available, the following lines of investigation will be actively pursued.

1. Determine conclusively if there is a chemical difference in the two varieties of seed.
2. Obtain as many "pure" components from each variety, using previously perfected techniques, as is possible.
3. Submit for physiological testing each "pure" component.
4. Subject each "pure" component to chemical examination to determine the type of compound, whether it is a known compound and its chemical composition if it is a new compound.

Proposed budget, November 1, 1956 - November 1, 1957.

Equipment (including larger scale extraction and separation equipment) and special chemicals	\$1000.00
Analyses and tests	350.00
Travel expenses	500.00
Salaries (one graduate assistant, laboratory help and director's stipend)	4000.00
Miscellaneous	100.00
Total	\$5950.00



~~SECRET~~

14 October 1957

MEMORANDUM FOR: CHIEF, FINANCE DIVISION

VIA : TSS/Budget Officer

SUBJECT : MKULTRA Subproject 22, Invoice No. 7
Allotment 8-2502-10-001

1. Invoice #7 covering the above subproject is attached.
Payment should be made as follows:

Cashier's check in the amount of \$16,819.00 drawn on ~~_____~~ E

Cashier's check in the amount of \$672.76, drawn on ~~_____~~

Both checks should be made payable to ~~_____~~ B

2. The checks should be forwarded to Acting Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than Friday, 18 October 1957.

3. This is a final invoice. A total of \$17,491.76 was obligated under this subproject during FY 58. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

~~_____~~ A
Acting Chief
TSS/Chemical Division
~~_____~~ E

Attachments:
Invoice & Certifications

CHECK # 0143501 THE AMOUNT OF \$672.76 RECEIVED

Distribution:
Orig & 2 - Addressee
1 - Comptroller

~~_____~~ A

1957 OCT 13 11 50 AM

~~_____~~ A
61805
~~SECRET~~

1. Invoices of supplies and other items should be made as follows:

Cashier's check in the amount of \$16,819.00 drawn on a

Cashier's check in the amount of \$672.76, drawn on a

Both checks should be made payable to

2. The checks should be forwarded to Acting Chief, TSS/Chemical Division, through TSS/Budget Officer, no later than Friday, 18 October 1957.

3. This is a final invoice. A total of \$17,491.76 was obligated under this subproject during FY 58. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

Acting Chief
TSS/Chemical Division

Attachments:

Invoices & Certifications

Distribution:

- Orig & 2 - Addressee
- 1 - Comptroller
- 1 - TSS/FASB

I CERTIFY THAT FUNDS ARE AVAILABLE
CHIEF, BUDGET OFFICE
407
8-2502-10-001

Cashiers Check dtd 22 October 1957, No. G20251, in amount \$16819.00, and
Cashiers Check dtd 22 October 1957, No. DM43521, in amount \$672.76 fwd
23 Oct. 1957 Registered Ret. Rec. Requested.

20-11

407

8-2502-10-001

-22-

28 AUG
1957

Correction of Sub. 22

17,491.76

17,491.76

16 OCT
1957

Invoice # 7

17,491.76

419
8

15 OCT
1957

16 August 1957

~~MEMORANDUM FOR~~ ~~CONTROLLER~~

ATTENTION : Finance Division

SUBJECT : Project KULTRA, Subproject 22, # #

Under the authority granted in the Memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 22 has been approved, and \$17,491.76 of the over-all project KULTRA funds has been obligated to cover the subproject's expenses and should be charged to Allotment 8-2502-10-001.

I CERTIFY THAT FUNDS ARE AVAILABLE,
ORIGINATION NUMBER 407
CHARGE TO ACCOUNT NO. 8-2502-10-001

~~Signature~~
Acting Chief
TSS/Chemical Division

APPROVED FOR OBLIGATION OF FUNDS:

~~Signature~~
Research Director

AUG 26 1957

Date

Distribution:

Orig & 2 - Addressee

- 1 - TSS/OC
- 1 - TSS/FASB
- 1 - TSS/SRB
- 2 - TSS/CD

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